



# **WIRING DIAGRAMS AND PARTS LISTINGS**

**FOR SERIES**

# **AT**

## **AUTOMATIC TRANSFER SWITCHES**

**30 THROUGH 400 AMPERES**



**FOR SERVICE ORGANIZATION USE ONLY**

**(Factory....Distributor....Dealer)**



# WIRING DIAGRAMS/PARTS LISTING FOR SERIES "AT" AUTOMATIC TRANSFER SWITCHES

All of the wiring diagrams apply to AT automatic transfer switches and should be used for service and parts information. Before using the diagrams, read the explanation and description given below.

Following is a typical model number with explanations of the parts which identify the automatic transfer switch group of wiring diagrams.

ATUCA 200 - 4X/1110 B

1                      2 3

1. Transfer switch and cabinet combination.
2. Control accessory group.
3. Meter lamp combination.

To find the wiring diagram in question, proceed to the index page shown below corresponding with the particular wiring diagram group for the automatic transfer switch. Wiring diagrams for the modules of the control accessory panel are also in the last section.

Wiring Diagrams For	See Index Page
Transfer Switch — Cabinets	2
Control Accessory Panels	27
Meter-Lamp Panels	68
Modules	121

For service information, see the AT service manual,  
number 962-0500.



# TRANSFER SWITCH — CABINETS

## DIAGRAM

## PAGE

### Begin Spec B

626-0101	Combination A, 1 Phase.....	3
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626-0103	Combination B, 1 Phase.....	5
626-0104	Combination B, 3 Phase.....	6
626-0105	Combination C, 1 Phase.....	7
626-0106	Combination C, 3 Phase.....	8
626-0107	Combination D, 1 Phase.....	9
626-0108	Combination D, 3 Phase.....	10
626-0151	Combination E, 1 Phase.....	11
626-0152	Combination E, 3 Phase.....	12
626-0153	Combination F, 1 Phase.....	13
626-0154	Combination F, 3 Phase.....	14
626-0155	Combination G, 1 Phase.....	15
626-0156	Combination G, 3 Phase.....	16
626-0157	Combination H, 1 Phase.....	17
626-0158	Combination H, 3 Phase.....	18

### Spec A

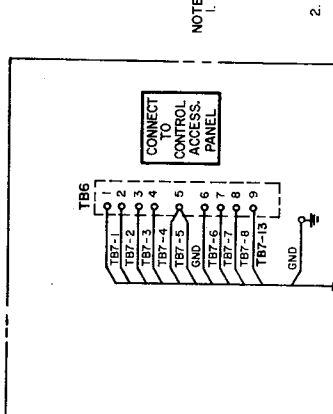
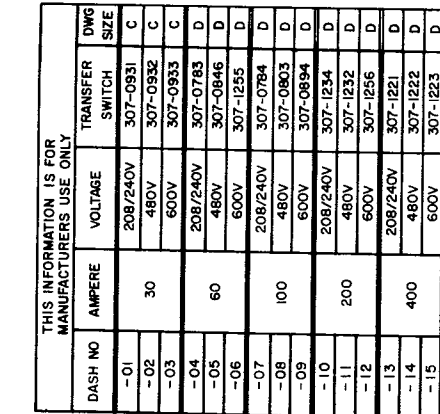
626-0001	Combination A, 1 Phase.....	19
626-0002	Combination A, 3 Phase.....	20
626-0003	Combination B, 1 Phase.....	21
626-0004	Combination B, 3 Phase.....	22
626-0005	Combination C, 1 Phase.....	23
626-0006	Combination C, 3 Phase.....	24
626-0007	Combination D, 1 Phase.....	25
626-0008	Combination D, 3 Phase.....	26











REF. DES.	PART NO.	QTY	DESCRIPTION	QTY
J1	338-0880	B	HARNES-DISC PLUG (30-200)	
	338-0881	B	HARNES-DISC PLUG (400)	
	323-0900669	B	RECEPTACLE	
K1,K2	SEE CHART	-	TRANSFER SWITCH	
TB7	338-0888	D	HARNES-CABINET (30-200)	
	338-0889	D	HARNES-CABINET (400)	
	332-6697(65)	A	TERMINAL BLOCK	
	332-6698	A	MARKER STRIP	
	98-2531	A	LABEL-WITHSTAND RATING (30)	
	98-2532	A	LABEL-WITHSTAND RATING (60)	
	98-2533	A	LABEL-WITHSTAND RATING (100)	
	98-2534	A	LABEL-WITHSTAND RATING (200)	
	98-2535	A	LABEL-WITHSTAND RATING (400)	
	301-3778	D	CONTROL BOX (30-200)	
	301-3779	D	CONTROL BOX (400)	
	301-3579	C	DOOR ASSY (30-400)	
	301-3580	C	DOOR ASSY (400)	
	301-3512	B	BRACKET-CONTROL BOX CENTER (400)	
	406-0363	A	HINGE-PIN	
	508-0177	A	WASHER-NYLON	
	301-3524	B	PLATE-STRIKER	
	99-1261	A	NAMEPLATE - CONTROL	
	406-0370	A	PIN-LATCH	
	332-1356	A	CLAMP-LOOP (30-200)	
	332-1024	P	CLAMP-LOOP (400)	
	332-1414	A	CLAMP-LOOP (30-200)	
	332-1414	-	CLAMP-LOOP (400)	
	332-0050	-	CLAMP-LOOP	

NOTES:

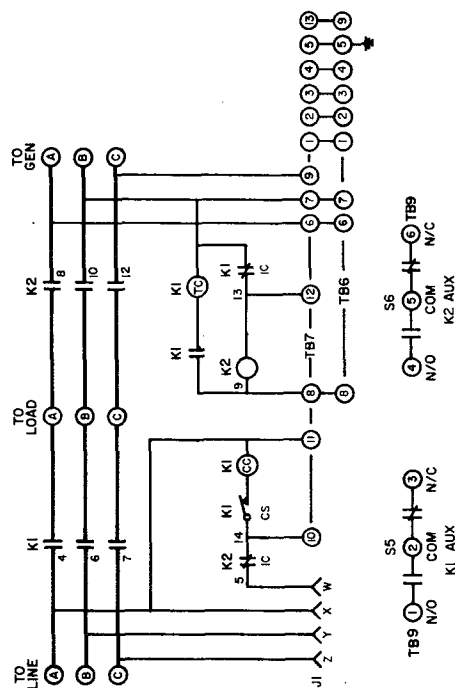
1. TRANSFER SW MECHANICALLY HELD BOTH SIDES SHOWN LOCKED INTO NORMAL LINE  
NORMAL LINE SHOWN DE-ENERGIZED  
CC --- CLOSING COIL  
TC --- TRIP COIL  
CS --- CUTOFF SWITCH  
IC --- INTERLOCK CONTACT
2. CONNECT LOAD TO RIGHT SIDE OF TRANSFER SWITCH ON 30-200 AMP  
CONNECT LOAD TO LEFT SIDE OF TRANSFER SWITCH ON 400 AMP

TRANSFER SWITCH - CABINET COMBINATION: B  
TRANSFER SW MECHANICALLY HELD BOTH SIDES  
CABINET (LESS METER PANEL)

DATE	REVISED	CAD	RMS	DATE
0-12-74				
<b>Oregon</b>				
DIVISION OF ROADS - TRANSPORTATION ASTORIA, OREGON				
SHEET NO.	PROJECT NO.	SHEET NO.		
1-1	6-74			
TRANSFER SW-CABINET (WIRING DIAGRAM)				
SPECIFICATION		C		
208,240, 480, 600V, 3PH, 4W, 50/60Hz		626-0104		



[illegible]



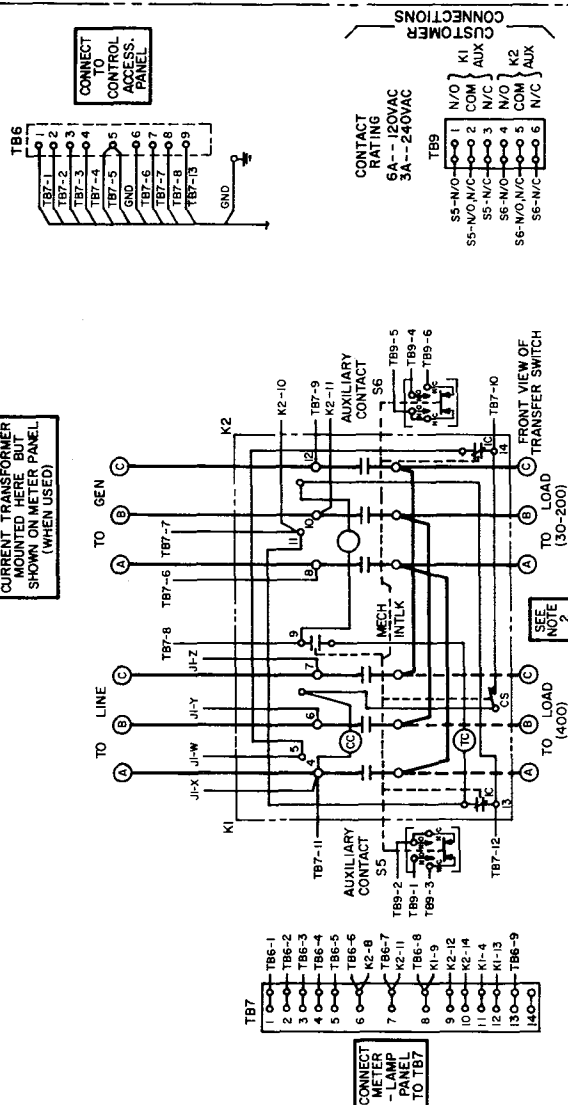
THIS INFORMATION IS FOR MANUFACTURERS USE ONLY				
DASH NO	AMPERE	VOLTAGE	TRANSFER SWITCH	DWG SIZE
-01		208/240V	307-0926	C
-02	30	480V	307-0927	C
-03		600V	307-0928	C
-04		208/240V	307-0437	D
-05	60	480V	307-0506	D
-06		600V	307-0581	D
-07		208/240V	307-0488	D
-08	100	480V	307-0507	D
-09		600V	307-0580	D
-10		208/240V	307-1225	D
-11	200	480V	307-1226	D
-12		600V	307-1227	D
-13		208/240V	307-1208	D
-14	400	480V	307-1209	D
-15		600V	307-1210	D

REF. DES.	PART NO.	QTY	DESCRIPTION	QTY
J1	338-0880	B	HARNES- DISC PLUG	(30-200)
	338-0881	B	HARNES- DISC PLUG	(400)
	323-0800-067	A	RECEPTACLE	(400)
K1K2	SEE CHART	-	TRANSFER SWITCH	
S5 S6	307-0428	P 2	AUXILIARY CONTACT	(30-200)
TB7	339-0888	D	HARNES- CABINET	(400)
	338-0889	D	HARNES- CABINET	(400)
	332-6597-067	A	TERMINAL BLOCK	
	332-6598	A	MARKER STRIP	
TB9	339-0878	B	HARNES-AUX CONTACT	(30-200)
	339-0874	D	HARNES-AUX CONTACT	(400)
	332-0898-067	A	TERMINAL BLOCK	
	332-0730	A	MARKER STRIP	
	98-2531	A	LABEL-WITHSTAND RATING	(30)
	98-2532	A	LABEL-WITHSTAND RATING	(60)
	98-2537	A	LABEL-WITHSTAND RATING	(100)
	98-2534	A	LABEL-WITHSTAND RATING	(200)
	98-2535	A	LABEL-WITHSTAND RATING	(400)
	301-3778	D	CONTROL BOX	(30-200)
	301-3779	D	CONTROL BOX	(400)
	301-3579	C	DOOR ASSY	(30-400)
	301-3578	C	DOOR ASSY	(400)
	301-3512	B	BRACKET-CONTROL BOX CENTER	(400)
	406-0363	A 2	HINGE - PIN	
	508-0177	P 2	WASHER-NYLON	
	301-3524	B	PLATE - STRIKER	
	99-1261	A	NAMEPLATE - CONTROL	
	406-0370	A	PIN-LATCH	(30-200)
	332-1356	P 2	CLAMP - LOOP	(400)
	332-1024	-	CLAMP - LOOP	(400)
	332-1414	-	CLAMP - LOOP	(30-200)
	332-1414	-	CLAMP - LOOP	(400)
	332-0050	-	CLAMP - LOOP	

626-0106

**WIRING DIAGRAM**

CURRENT TRANSFORMER  
MOUNTED HERE BUT  
SHOWN ON METER PANEL  
(WHEN USED)






NOTES:  
1. TRANSFER SW MECHANICALLY HELD LINE SIDE

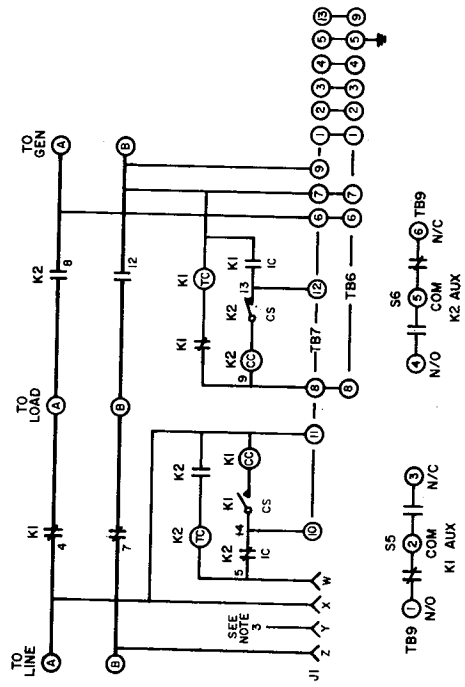
CC--CLOSING COIL  
TC--TRIP COIL  
CS--CUTOUT SWITCH  
IC--INTERLOCK CONTACT

2. CONNECT LOAD TO RIGHT SIDE OF TRANSFER SWITCH ON 30-200 AMP  
CONNECT LOAD TO LEFT SIDE OF TRANSFER SWITCH ON 400 AMP

TRANSFER SWITCH - CABINET ASSY: C  
TRANSFER SW MECHANICALLY HELD LINE SIDE  
AUXILIARY CONTACTS LINE & GEN SIDE  
CABINET (LESS METER PANEL)

PROD NO	REV	DATE	REV	DATE	DATE	DATE	DATE
100-1000	1	5-1-74					
			DIVISION OF OMAN CORPORATION				
			TRANSFER SWITCH-CABINET ASSY (WIRING DIAGRAM)				
			SERIAL FROM: 626-01061 °C				

### SCHEMATIC DIAGRAM



**NOTES:**

1. TRANSFER SW MECHANICALLY HELD BOTH SIDES  
L1 - SHOWN LOCKED INTO NORMAL LINE  
NORMAL LINE SHOWN DE-ENERGIZED  
CC --- CLOSING COIL  
C --- TRIP COIL  
C1 --- INTERLOCK SWITCH  
C2 --- INTERLOCK CONTACT
2. CONNECT LOAD TO RIGHT SIDE OF TRANSFER  
SWITCHES ON 200 AMP  
CONNECT LOAD TO LEFT SIDE OF TRANSFER  
SWITCH ON 400 AMP
3. WIRE INCLUDED IN HARNESS BUT NOT NEEDED  
FOR OPERATION. THE FREE END INTO HARNESS
4. THIS WIRE LABELED FROM K2 - II, TO K2 - IO  
CONNECT FROM K2 - II, TO K2 - 12

REF DES	PART NO	PRTS LIST PTE QTY	DESCRIPTION
J1	318-0880	B	HARNES-DISC PLUG (30-200)
	318-0881	A	HARNES-DISC PLUG (400)
K1,K2	321-0900	A	RECEPTACLE
S3,S6	SEE CHART	-	TRANSFER SWITCH
T87	307-0428	P	AUXILIARY CONTACT
T89	308-0868	D	HARNES-CABINET (30-200)
	308-0869	D	HARNES-CABINET (400)
	332-0596F	A	TERMINAL BLOCK
	332-1698	A	MARKER STRIP
T89	338-0678	B	HARNES-AUX CONTACT (30-200)
	338-0674	D	HARNES-AUX CONTACT (400)
	332-0689FEP	A	TERMINAL BLOCK
	332-0730	A	MARKER STRIP
	98-2531	A	LABEL - WITHSTAND RATING (30)
	98-2532	A	LABEL - WITHSTAND RATING (60)
	98-2537	A	LABEL - WITHSTAND RATING (100)
	98-2534	A	LABEL - WITHSTAND RATING (200)
	98-2535	A	LABEL - WITHSTAND RATING (400)
	301-3778	D	CONTROL BOX (30-200)
	301-3779	D	CONTROL BOX (400)
	301-3579	C	DOOR ASSY (30-400)
	301-3578	C	DOOR ASSY (400)
	301-3512	B	BRACKET-CONTROL BOX CENTER (400)
	406-0363	A	HINGE PIN
	508-0177	P	WASHER-NYLON
	301-3524	B	PLATE-STRIKER
	99-1261	A	NAIL-PLATE - CONTROL
	332-1356	A	PIN-LATCH
	332-1024	P	CLAMP-LOOP (30-200)
	332-1414	-	CLAMP-LOOP (400)
	332-1414	-	CLAMP-LOOP (30-200)
	332-0050	-	CLAMP-LOOP (400)

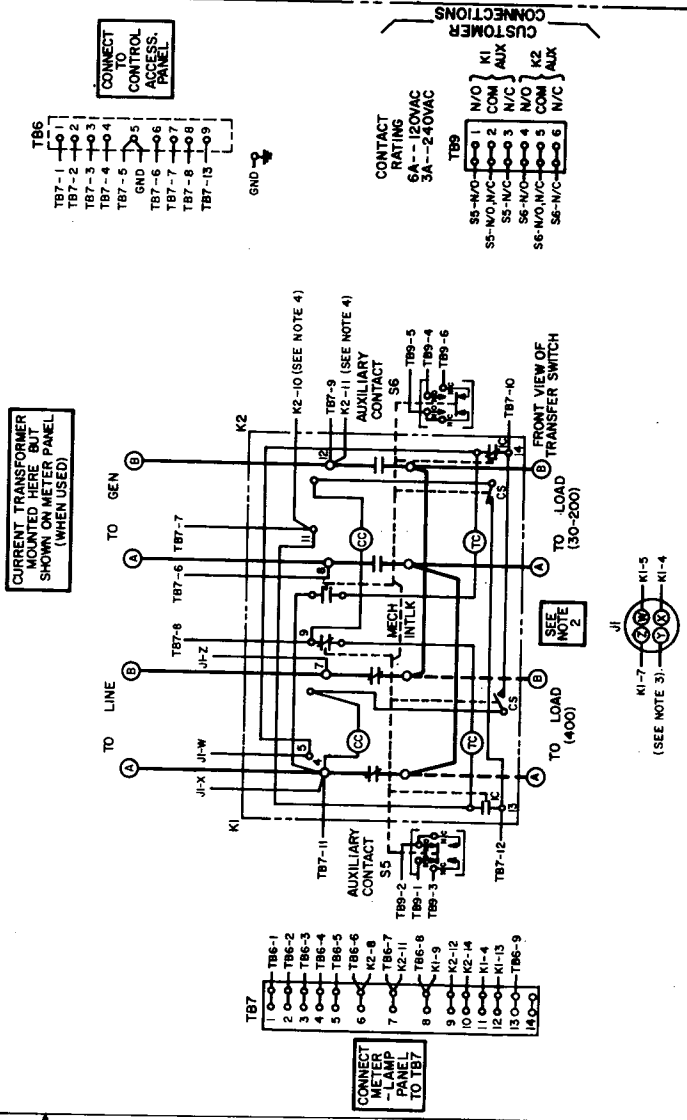
THIS INFORMATION IS FOR

MANUFACTURERS USE ONLY			DWG SIZE
DASH NO	AMPERE	TRANSFER SWITCH	
-01	30	307-0930	C
-02	60	307-0779	D
-03	100	307-0780	D
-04	200	307-1233	D
-05	400	307-1220	D

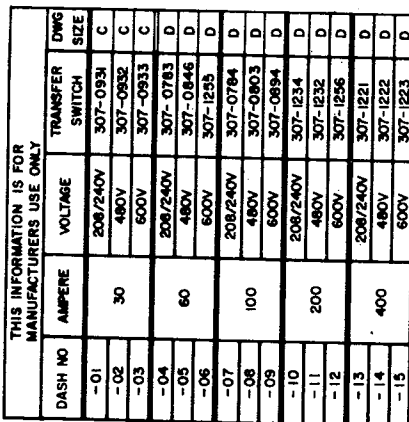
**TRANSFER SWITCH-CABINET COMBINATION: D**  
**TRANSFER SW MECHANICALLY HELD BOTH SIDES**  
**CABINET (LESS METER PANEL)**  
**AUXILIARY CONTACTS LINE & GEN SIDE**

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WIRING DIAGRAM  
INSIDE VIEW OF CONTROL BOX





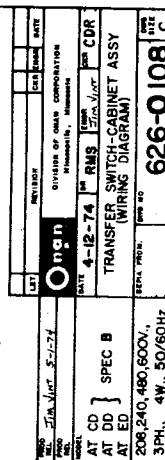


REF. DES.	PART NO.	DESCRIPTION	QTY	UNIT
J1	338-08A0	HARNES- DISC PLUS	1	(30-200)
	338-08B1	HARNES- DISC PLUS	1	(400)
K1, K2	338-0900	RECEPTACLE	A	
30-56	SEE CHART	TRANSFER SWITCH		
T87	337-0458	AUXILIARY SWITCH	2	
	339-0868	HARNES- CABINET	D	(30-200)
	338-0889	HARNES- CABINET	D	(400)
	332-0672E7	TERMINAL BLOCK	A	
	332-0666	MARKER STRIP	A	
T89	338-0878	HARNES-AUX CONTACT	1	(30-200)
	338-0878	HARNES-AUX CONTACT	B	(400)
332-0859E2	332-0859E2	TERMINAL BLOCK	A	
	332-0730	MARKER STRIP	A	
	98-2531	LABEL - WITHSTAND RATING	A	(30)
	98-2532	LABEL - WITHSTAND RATING	A	(60)
	98-2537	LABEL - WITHSTAND RATING	A	(100)
	98-2534	LABEL - WITHSTAND RATING	A	(200)
	98-2535	LABEL - WITHSTAND RATING	A	(400)
	301-3776	CONTROL BOX	D	(30-200)
	301-3779	CONTROL BOX	D	(400)
	301-3579	DOOR ASSY	C	(30-400)
	301-3578	DOOR ASSY	C	(400)
	301-3512	BRACKET-CONTROL BOX CENTER	B	(400)
	406-0363	HINGE-PIN	A	(30-200)
	508-0177	WASHER-NYLON	P	(400)
	301-3524	PLATE-STRIKER	P	
	99-1261	NAMEPLATE - CONTROL	A	
	406-0370	PIN-LATCH	A	(30-200)
	332-1356	CLAMP-LOOP	P	(400)
	332-1024	CLAMP-LOOP	2	(400)
	332-1414	CLAMP-LOOP	4	(30-200)
	332-1414	CLAMP-LOOP	6	(400)
	332-0050	CLAMP-LOOP	1	

NOTES:

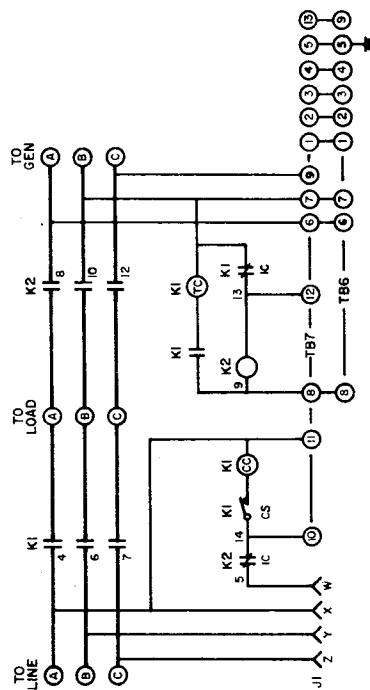
1. TRANSFER SW MECHANICALLY HELD BOTH SIDES SHOWN LOCKED INTO NORMAL LINE. NORMAL LINE SHOWN DE-ENERGIZED.  
CS --- CLOSING COIL  
TS --- TRIP COIL  
CS --- CUTOUT SWITCH  
IC --- INTERLOCK CONTACT
2. CONNECT LOAD TO RIGHT SIDE OF TRANSFER SWITCH ON 30-200 AMP  
CONNECT LOAD TO LEFT SIDE OF TRANSFER SWITCH ON 400 AMP

TRANSFER SWITCH-CABINET ASSY: D  
TRANSFER SW MECHANICALLY HELD BOTH SIDES  
AUXILIARY CONTACTS LINE & GEN SIDE  
CABINET (LESS METER PANEL)





### SCHEMATIC DIAGRAM



THIS INFORMATION IS FOR  
MANUFACTURERS USE ONLY

DASH NO	AMPERE	VOLTAGE	TRANSFER SWITCH	DNK SIZE
- 01		208/240V	307-0926	C
- 02	30	480V	307-0927	C
- 03		600V	307-0928	C
- 04		208/240V	307-0497	D
- 05	60	480V	307-0506	D
- 06		600V	307-0581	D
- 07		208/240V	307-0498	D
- 08	100	480V	307-0507	D
- 09		600V	307-0580	D
- 10		208/240V	307-1225	D
- 11	200	480V	307-1226	D
- 12		600V	307-1227	D
- 13		208/240V	307-1208	D
- 14	400	480V	307-1209	D
- 15		600V	307-1210	D

[illegible]

626-0152

NOTES:  
1. TRANSFER SW MECHANICALLY HELD LINE SIDE

CC -- CLOSING COIL  
TC -- TRIP COIL  
CS -- CUTOUT SWITCH  
IC -- INTERLOCK CONTACT

2. CONNECT LOAD TO RIGHT SIDE OF TRANSFER SWITCH ON 30-200 AMP  
CONNECT LOAD TO LEFT SIDE OF TRANSFER SWITCH ON 400 AMP

**TRANSFER SWITCH - CABINET COMBINATION: E**  
**TRANSFER SW MECHANICALLY HELD LINE SIDE**

OPEN TYPE CONSTRUCTION.(INTENDED TO BE INSTALLED INTO  
ANOTHER ENCLOSURE WITH CONTROL ACCESSORY GROUP  
AND METER LAMP PANEL.)

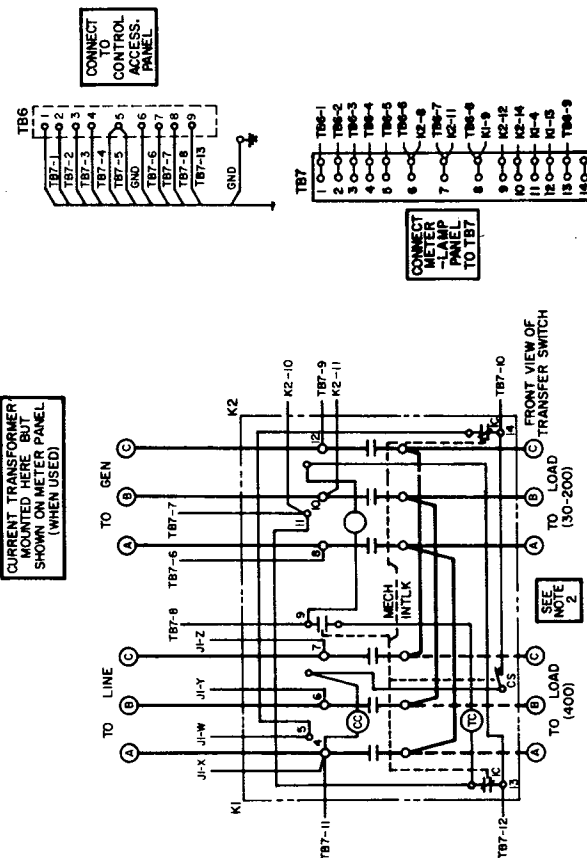
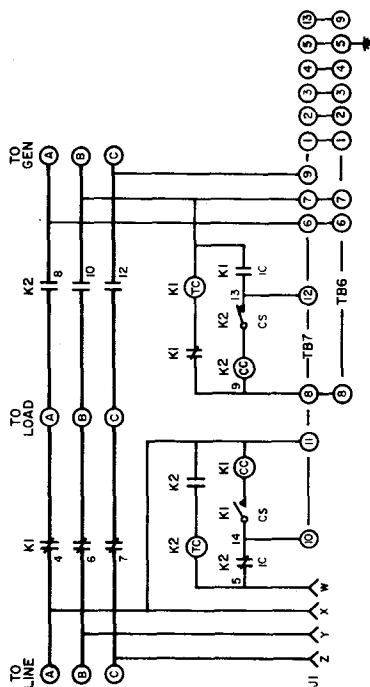
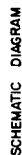


Diagram of a four-wire cable with conductors labeled W, X, Y, and Z. W and X are twisted together, and Y and Z are twisted together. The conductors are labeled KI-5, KI-4, KI-6, and KI-7 respectively.

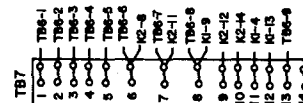
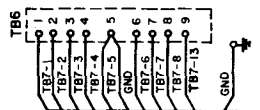
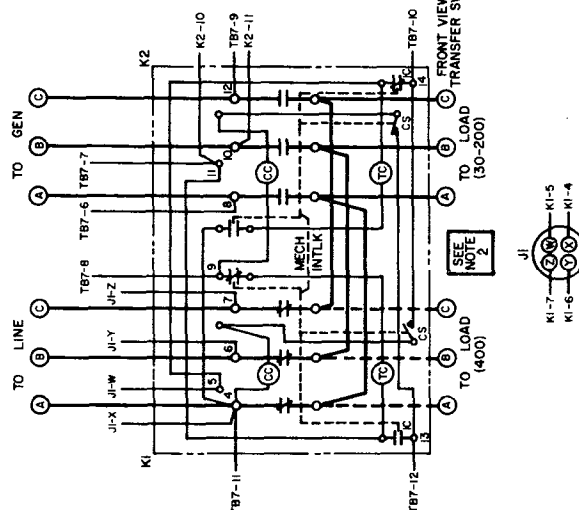
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## WIRING DIAGRAM



THIS INFORMATION IS FOR MANUFACTURERS USE ONLY				
DASH NO	AMPERE	VOLTAGE	TRANSFER SWITCH	DWG SIZE
-01		208/240V	307-0931	C
-02	30	480V	307-0932	C
-03		600V	307-0933	C
-04		208/240V	307-0783	D
-05	60	480V	307-0846	D
-06		600V	307-1255	D
-07		208/240V	307-0784	D
-08	100	480V	307-0803	D
-09		600V	307-0894	D
-10		208/240V	307-1234	D
-11	200	480V	307-1232	D
-12		600V	307-1256	D
-13		208/240V	307-1221	D
-14	400	480V	307-1222	D
-15		600V	307-1223	D

**THIS INFORMATION IS FOR  
MANUFACTURERS USE ONLY**

REF. DES.	PART. NO.	QTY.	DESCRIPTION	QTY.
J1	338-0880	B	HARNES-DISC PLUG	(30-200)
	338-0881	B	HARNES-DISC PLUG	(400)
	333-0900(66)	A	RECEPTACLE	
K1,K2	SEE CHART		TRANSFER SWITCH	
TB7	339-0888	D	HARNES- CABINET	(30-200)
	339-0889	D	HARNES- CABINET	(400)
	332-687(66)	A	TERMINAL BLOCK	
	332-6696	A	MARKER STRIP	
	98-2531	A	LABEL -WITHSTAND RATING	(30)
	98-2532	A	LABEL -WITHSTAND RATING	(60)
	98-2537	A	LABEL -WITHSTAND RATING	(100)
	98-2534	A	LABEL -WITHSTAND RATING	(200)
	98-2535	A	LABEL -WITHSTAND RATING	(400)
	301-3784	D	PANEL -ATS MOUNTING	
	301-3783	D	HOUSING-SWINGING PANEL	
	508-0116	2	GROMMET	
	301-3785	A	BRACKET-METER PANEL	
	406-0363	A	HINGE -PIN	
	508-0177	P	WASHER-NYLON	
	508-0084	P	GROMMET	
	99-1261	A	NAMEPLATE - CONTROL	
	406-0370	A	PIN-LATCH	(30-200)
	332-1356	P	CLAMP-LOOP	(400)
	332-1024	2	CLAMP-LOOP	
	332-1414	4	CLAMP-LOOP	(30-200)
	332-1414	6	CLAMP-LOOP	(400)
	332-0050	1	CLAMP-LOOP	

626-0154

NOTES:

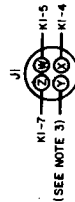
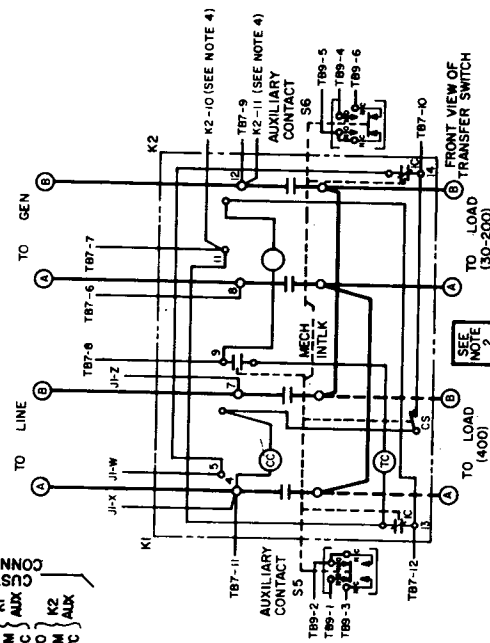
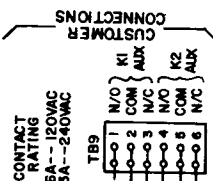
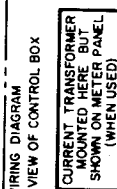
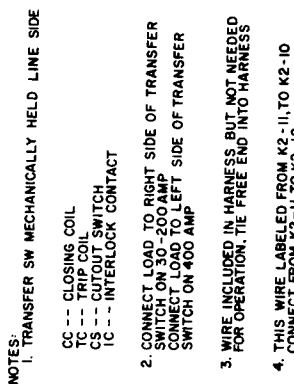
1. TRANSFER SW MECHANICALLY HELD BOTH SIDES SHOWN LOCKED INTO NORMAL LINE NORMAL LINE SHOWN DE-ENERGIZED CC --- CLOSING COIL TC --- TRIP COIL CS --- CUTOUT SWITCH IC --- INTERLOCK CONTACT
2. CONNECT LOAD TO RIGHT SIDE OF TRANSFER SWITCH ON 30-200 AMP CONNECT LOAD TO LEFT SIDE OF TRANSFER SWITCH ON 400 AMP

TRANSFER SWITCH-CABINET COMBINATION: F  
TRANSFER SW MECHANICALLY HELD BOTH SIDES

OPEN TYPE CONSTRUCTION (INTENDED TO BE INSTALLED INTO  
ANOTHER ENCLOSURE WITH CONTROL ACCESSORY GROUP  
AND METER LAMP PANEL)

[illegible]

### SCHEMATIC DIAGRAM



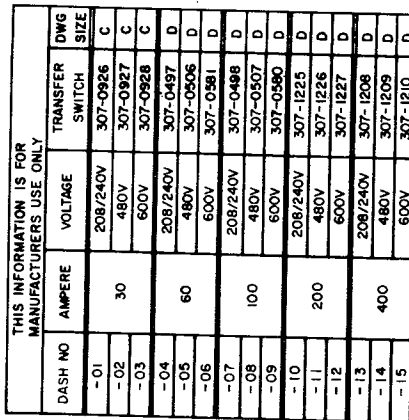
REF. DES.	PART NO	QTY	DESCRIPTION	PARTS LIST
J1	338-0880	B	HARNES- DSC PLUG	(30-200)
	338-0881	B	HARNES- DSC PLUG	(400)
	323-0900 (REF)	A	RECEPTACLE	
K1, K2	SEE CHART			
S5, S6	307-0428	P	TRANSFER SWITCH	
T87	338-0888	D	AUXILIARY CONTACT	(30-200)
	338-0889	D	HARNES- CABINET	(400)
	332-6879 (REF)	A	TERMINAL BLOCK	
	332-1658	A	MARKER STRIP	
T89	338-0678	B	HARNES- AUX CONTACT	(30-200)
	338-0674	D	HARNES- AUX CONTACT	(400)
	332-0696 (REF)	A	TERMINAL BLOCK	
	332-0730	A	MARKER STRIP	
	98-2531	A	LABEL- WITHSTAND RATING	(30)
	98-2532	A	LABEL- WITHSTAND RATING	(60)
	98-2537	A	LABEL- WITHSTAND RATING	(100)
	98-2534	A	LABEL- WITHSTAND RATING	(1200)
	98-2535	A	LABEL- WITHSTAND RATING	(400)
	301-3784	D	PANEL- ATS MOUNTING	
	301-3783	D	HOUSING- SWINGING PANEL	
	308-0116	2	GROMMET	
	301-3785	A	BRAKET- METER PANEL	
	406-0363	A	HINGE- PIN	
	508-0177	P	WASHER- NYLON	
	508-0094	B	GROMMET	
	99-1261	A	NAME PLATE - CONTROL	
	406-0370	A	PIN- LATCH	
	332-1356	P	CLAMP- LOOP	(30-200)
	332-1024	A	CLAMP- LOOP	(400)
	332-1414	4	CLAMP- LOOP	(30-200)
	332-1414	6	CLAMP- LOOP	(400)
	332-0050	1	CLAMP- LOOP	

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY			
DASH NO	AMPERE	TRANSFER SWITCH	DWG SIZE
- 01	30	307-0325	C
- 02	60	307-0698	D
- 03	100	307-0699	D
- 04	200	307-1224	D
- 05	400	307-1207	D

TRANSFER SWITCH- CABINET COMBINATION: G  
TRANSFER SW MECHANICALLY HELD LINE SIDE  
AUXILIARY CONTACTS LINE & GEN SIDE  
OPEN TYPE CONSTRUCTION/INTENDED TO BE INSTALLED INTO  
ANOTHER ENCLOSURE WITH CONTROL ACCESSORY GROUP  
(AND METER LAMP PANEL)

[illegible]

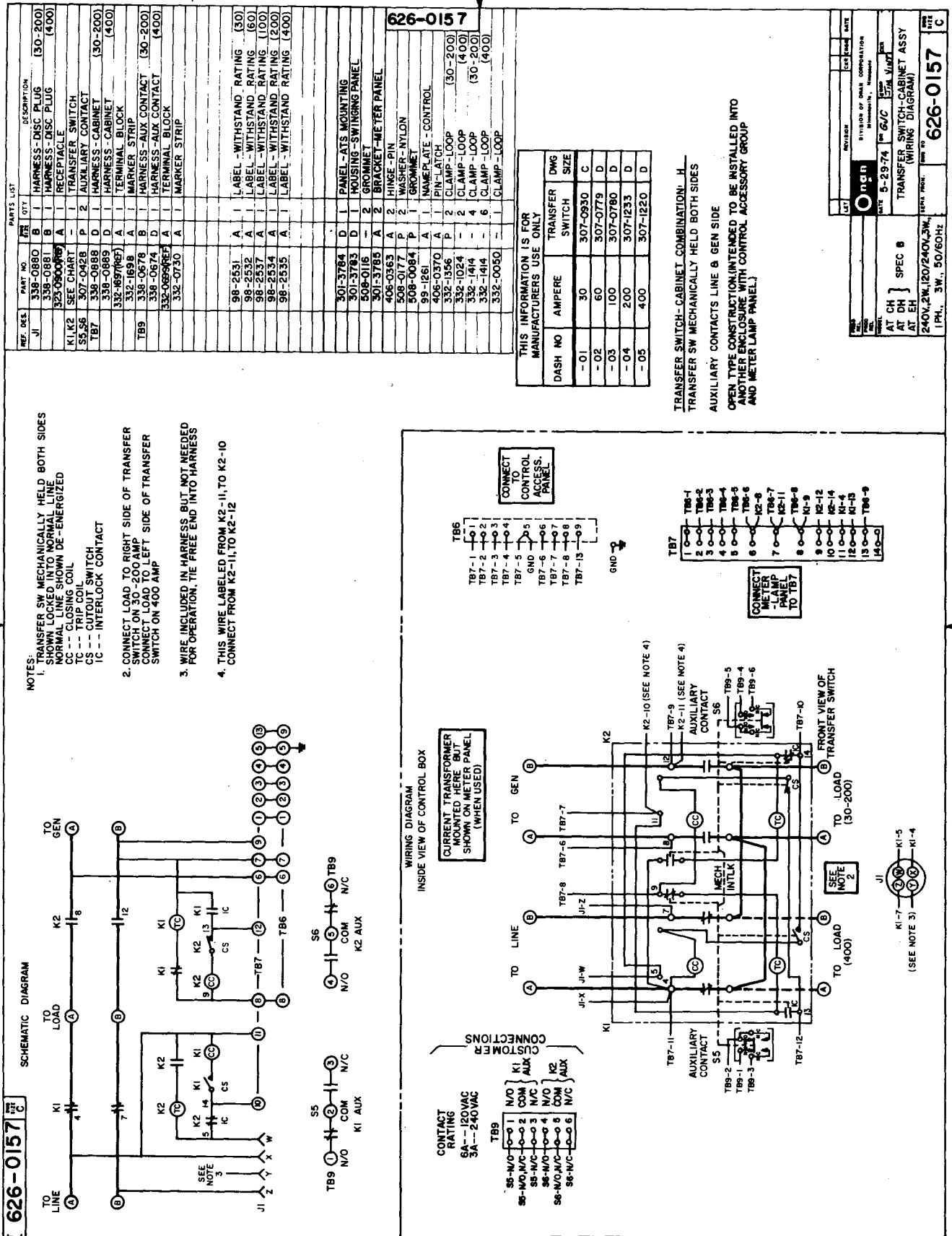




REF. DES.	PART NO	QTY	DESCRIPTION
J1	338-0880 B	1	HARNES-DSC PLUG (30-200)
	338-0881 B	1	HARNES-DSC PLUG (400)
KLK2	323-0800 A	1	RECEPTACLE
S5 S6	SEE CHART	A	1 TRANSFER SWITCH
TB7	307-0428 P	2	AUXILIARY SWITCH
	338-0868 D	1	HARNES-CABINET (30-200)
	338-0869 D	1	HARNES-CABINET (400)
	332-9876 A	1	TERMINAL BLOCK
TB9	332-1690 A	1	MARKER STRIP
	338-0678 B	1	HARNES-AUX CONTACT (30-200)
	338-0674 D	1	HARNES-AUX CONTACT (400)
	332-0690 A	1	TERMINAL BLOCK
	332-0750 A	1	MARKER STRIP
	38-2531 A	1	LABEL-WITHSTAND RATING (30)
	98-2532 A	1	LABEL-WITHSTAND RATING (60)
	98-2537 A	1	LABEL-WITHSTAND RATING (100)
	98-2534 A	1	LABEL-WITHSTAND RATING (200)
	98-2535 A	1	LABEL-WITHSTAND RATING (400)
	301-3784 D	1	PANEL-ATS MOUNTING
	301-3783 D	1	HOUSING-SWINGING PANEL
	508-0116 -	2	GROMMET
	301-3785 A	2	BACKET-METER PANEL
	406-0363 A	2	BRACE-PIN
	508-0177 P	2	WASHER-NYLON
	508-0084 P	1	GROMMET
	99-1261 A	1	NAMEPLATE - CONTROL
	406-0370 A	1	PIN-LATCH
	332-1356 P	2	CLAMP-LOOP (30-200)
	332-1024 A	2	CLAMP-LOOP (400)
	332-1414 -	4	CLAMP-LOOP (30-200)
	332-1414 -	5	CLAMP-LOOP (400)
	332-0050 -	1	CLAMP-LOOP

OPEN TYPE CONSTRUCTION (INTENDED TO BE INSTALLED INTO ANOTHER ENCLOSURE WITH CONTROL ACCESSORY GROUP AND METER LAMP PANEL)

DATE	TIME	BY	REVISION	DATE	TIME	BY
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>O</b>  <small>ORIGINAL</small> </div> <div> <b>62-2874</b> </div> </div>			<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>6</b>  <small>60°C</small> </div> <div> <b>1000</b> </div> </div>			
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>AT CG</b> </div> <div> <b>SPEC B</b> </div> </div>			<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>AT DG</b> </div> <div> <b>208-240, 480, 600V,</b> </div> </div>			
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>AT ES</b> </div> <div> <b>3PH., 4W., 50/60HZ</b> </div> </div>			<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>TRANSFER SWITCH-CABINET ASSY</b> </div> <div> <b>(WIRING DIAGRAM)</b> </div> </div>			
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>TEMP. RANGE:</b> </div> <div> <b>1000</b> </div> </div>			<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>626-0156</b> </div> <div> <b>1000</b> </div> </div>			
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>DATE</b> </div> <div> <b>1000</b> </div> </div>			<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>TIME</b> </div> <div> <b>1000</b> </div> </div>			
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>BY</b> </div> <div> <b>1000</b> </div> </div>			<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>REVISION</b> </div> <div> <b>1000</b> </div> </div>			
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>DATE</b> </div> <div> <b>1000</b> </div> </div>			<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>TIME</b> </div> <div> <b>1000</b> </div> </div>			
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>BY</b> </div> <div> <b>1000</b> </div> </div>			<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <b>REVISION</b> </div> <div> <b>1000</b> </div> </div>			







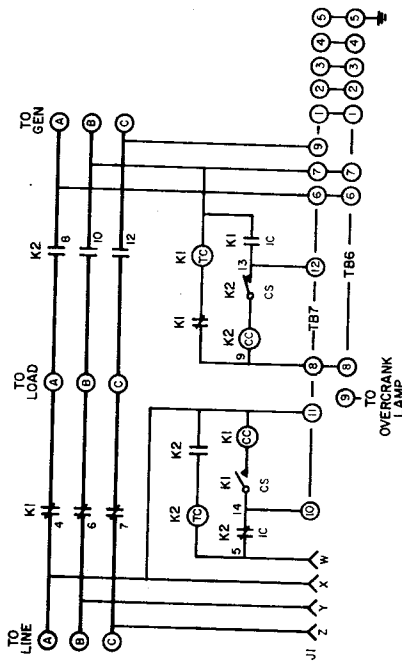






626-0004 C

## SCHEMATIC DIAGRAM



THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

DASH NO	AMPERE	VOLTAGE	TRANSFER SWITCH	DWG SIZE
-01	30	208/240V	307-0931	C
-02	30	480V	307-0932	C
-03	60	600V	307-0933	C
-04	60	208/240V	307-0783	D
-05	60	480V	307-0846	D
-06	60	600V	307-1255	D
-07	100	208/240V	307-0784	D
-08	100	480V	307-0803	D
-09	100	600V	307-0894	D
-10	200	208/240V	307-1234	D
-11	200	480V	307-1232	D
-12	200	600V	307-1256	D
-13	400	208/240V	307-1221	D
-14	400	480V	307-1222	D
-15	400	600V	307-1223	D

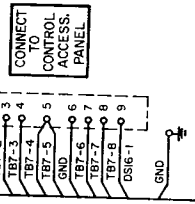
REF. DES.	QTY	PART NO.	DESCRIPTION
JI	1	338-0660	HARNESS-DISC PLUG (30-200)
JI	1	338-0669	HARNESS-DISC PLUG (400)
JI	1	338-0667	RECEPTACLE
JI	1	338-0668	TRANSFER SWITCH
JI	1	338-0665	HARNESS-CABINET (30-200)
JI	1	338-0667	HARNESS-CABINET (400)
JI	1	332-1469	TERMINAL BLOCK
JI	1	332-1469	MARKER STRIP
JI	1	98-2531	LABEL-WITHSTAND RATING (30)
JI	1	98-2532	LABEL-WITHSTAND RATING (60)
JI	1	98-2533	LABEL-WITHSTAND RATING (100)
JI	1	98-2534	LABEL-WITHSTAND RATING (200)
JI	1	98-2535	LABEL-WITHSTAND RATING (400)
JI	1	301-3520	CONTROL BOX (30-200)
JI	1	301-3521	CONTROL BOX (400)
JI	1	301-3578	DOOR ASSY (30-200)
JI	1	301-3578	DOOR ASSY (400)
JI	1	301-3512	BRACKET-CONTROL BOX CENTER (400)
JI	1	406-0363	HINGE-PIN
JI	1	308-0177	WASHER-NYLON
JI	1	301-3524	PLATE-STRIKER
JI	1	99-1261	NAMEPLATE-CONTROL
JI	1	406-0370	PIN-LATCH (30-200)
JI	1	332-3556	CLAMP-LOOP (400)
JI	1	332-1024	CLAMP-LOOP (30-200)
JI	1	332-1414	CLAMP-LOOP (400)
JI	1	332-1414	CLAMP-LOOP (30-200)
JI	1	332-0050	CLAMP-LOOP (400)

WIRING DIAGRAM  
INSIDE VIEW OF CONTROL BOX

CURRENT TRANSFORMER  
MOUNTED HERE BUT  
SHOWN ON METER PANEL  
(WHEN USED)

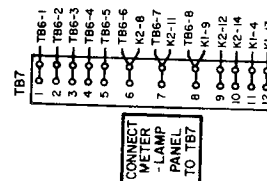
CONNECT  
DSG-1  
ON  
METER  
-LAMP  
PANEL

TB6-9

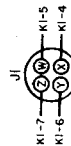


NOTES:  
1. TRANSFER SW MECHANICALLY HELD BOTH SIDES  
SHOWN LOCKED INTO NORMAL LINE  
POSITION. SHOWN DE-ENERGIZED  
CC - CLOSING COIL  
TC - TRIP COIL  
CS - CUTOFF  
IC - INTERLOCK CONTACT  
2. CONNECT LOAD TO RIGHT SIDE OF TRANSFER  
SWITCH ON 30-200 AMP  
CONNECT LOAD TO LEFT SIDE OF TRANSFER  
SWITCH ON 400 AMP

TRANSFER SWITCH-CABINET COMBINATION: B  
TRANSFER SW MECHANICALLY HELD BOTH SIDES  
CABINET (LESS METER PANEL)



FRONT VIEW OF  
TRANSFER SWITCH  
(30-200)



DATE 12-28-72  
BY JTM  
CHECKED JTM  
APPROVED JTM

AT CB } SPEC A  
AT EB }  
AT EB }

208/240, 480/600V,  
3PH, 4W, 50/60Hz

TRANSFER SW-CABINET  
(WIRING DIAGRAM)

626-0004 C

DATE 12-28-72  
BY JTM  
CHECKED JTM  
APPROVED JTM

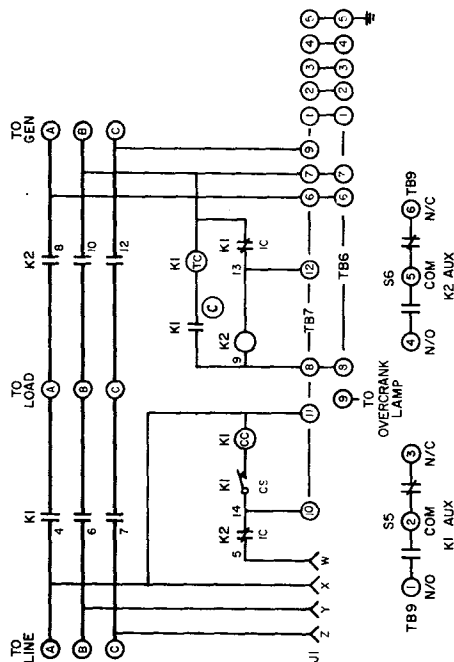
AT CB } SPEC A  
AT EB }  
AT EB }

208/240, 480/600V,  
3PH, 4W, 50/60Hz

TRANSFER SW-CABINET  
(WIRING DIAGRAM)

626-0004 C





THIS INFORMATION IS FOR MANUFACTURERS USE ONLY				
DASH NO	AMPERE	VOLTAGE	TRANSFER SWITCH	DWG SIZE
-01		208/240V	307-0926	C
-02	30	480V	307-0927	C
-03		600V	307-0928	C
-04		208/240V	307-0937	D
-05	60	480V	307-0506	D
-06		600V	307-0581	D
-07		208/240V	307-0498	D
-08	100	480V	307-0507	D
-09		600V	307-0580	D
-10		208/240V	307-1225	D
-11	200	480V	307-1226	D
-12		600V	307-1227	D
-13		208/240V	307-1208	D
-14	400	480V	307-1209	D
-15		600V	307-1210	D

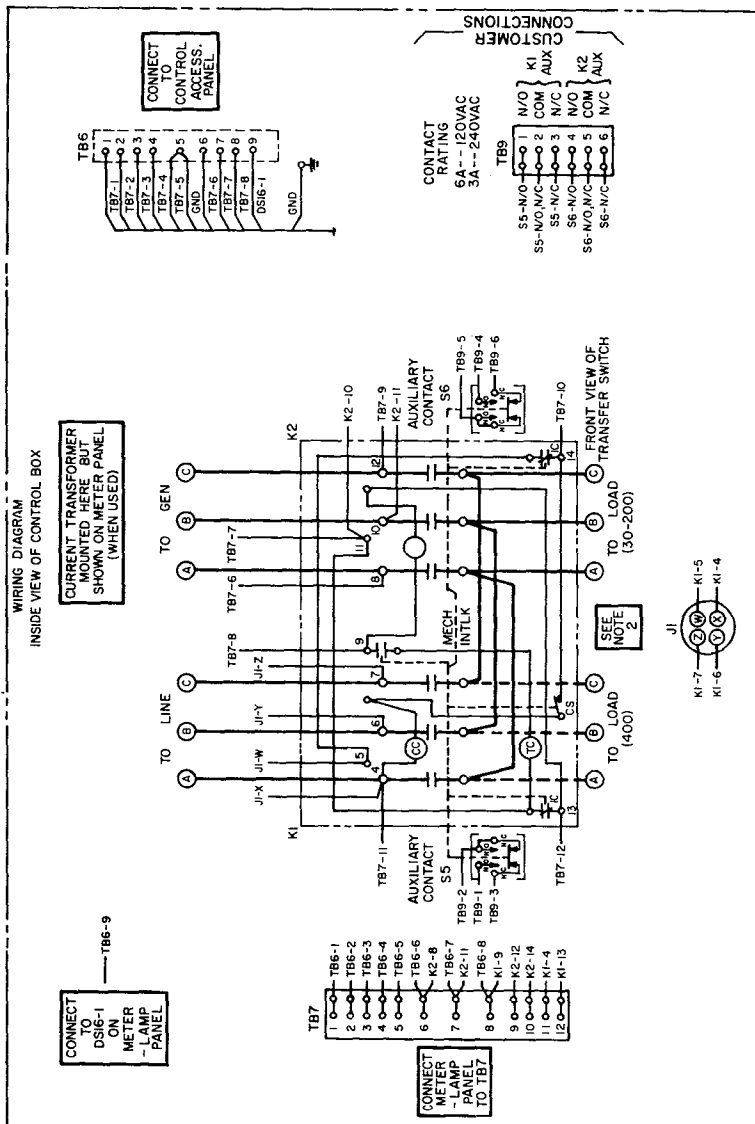
REF. DES.	PART NO.	QTY	DESCRIPTION
J1	338-0660	1	HARNES- DISC PLUG (30-200)
	338-0669	1	HARNES- DISC PLUG (400)
	323-009REF	1	RECEPTACLE
K1K2	SEE CHART		
S4S6	307-0428	2	TRANSFER SWITCH
TB7	338-0656	1	AUXILIARY CONTACT
	338-0657	1	HARNES- CABINET (30-200)
	338-0658	1	HARNES- CABINET (400)
	332-1469	1	TERMINAL BLOCK
	332-1469	1	MARKER STRIP
TB9	338-0678	1	HARNES-AUX CONTACT (30-200)
	338-0674	1	HARNES-AUX CONTACT (400)
	332-0659REF	1	TERMINAL BLOCK
	332-0730	1	MARKER STRIP
	98-2531	1	LABEL -WITHSTAND RATING (30)
	98-2532	1	LABEL -WITHSTAND RATING (60)
	98-2537	1	LABEL -WITHSTAND RATING (100)
	98-2534	1	LABEL -WITHSTAND RATING (200)
	98-2535	1	LABEL -WITHSTAND RATING (400)
	301-3520	1	CONTROL BOX (30-200)
	301-3521	1	CONTROL BOX (400)
	301-3579	1	DOOR ASSY (30-400)
	301-3578	1	DOOR ASSY (400)
	301-3512	1	BRACKET-CONTROL BOX CENTER (400)
	406-0363	1	HINGE -PIN
	608-0177	2	WASHER -NYLON
	301-3524	1	PLATE -STRIKER
	99-1261	1	NAMEPLATE - CONTROL
	406-0370	1	PIN -LATCH
	332-1356	2	CLAMP -LOOP (30-200)
	332-1024	2	CLAMP -LOOP (400)
	332-1414	4	CLAMP -LOOP (30-200)
	332-1414	5	CLAMP -LOOP (400)
	332-0050	1	CLAMP - LOOP

NOTES:  
1. TRANSFER SW MECHANICALLY HELD LINE SIDE

CC -- CLOSING COIL  
TC -- TRIP COIL  
CS -- CUTOFF SWITCH  
IC -- INTERLOCK CONTACT

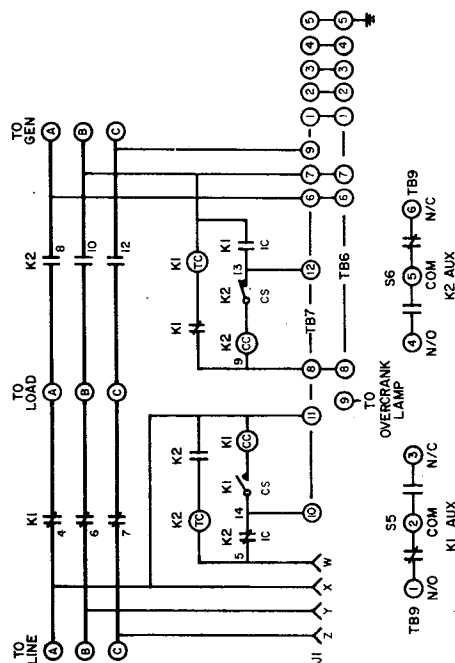
CONNECT LOAD TO RIGHT SIDE OF TRANSFER SWITCH ON 30-200 AMP  
CONNECT LOAD TO LEFT SIDE OF TRANSFER SWITCH ON 400 AMP

TRANSFER SWITCH-CABINET ASSY: C  
TRANSFER SW MECHANICALLY HELD LINE SIDE  
AUXILIARY CONTACTS LINE & GEN SIDE  
CABINET (LESS METER PANEL)



C	REVISED (2) XL CONTACTS	27	3	4
A	REMOVED S FROM MODEL NO.	28	3	4
B	REMOVED S FROM MODEL NO.	29	3	4
D	REMOVED S FROM MODEL NO.	30	3	4
LT#	REVISED FROM	DATE	BY	CHK
<b>Ong</b> DIVISION OF BEAM CORPORATION				
REQD TO JTM, V&T	2-2-73	DATE	2-1-73	ON JTM
PROG NO				JMS V&T
MODEL NO				PAT
[ AT CC ] SPEC A [ AT DC ] [ AT EC ]				
TRANSFER SWITCH-CABINET ASSY (WIRING DIAGRAM)				
SERIAL PRIN.	COMP NO.			
20B,240,480,600V, 3PH, 4W, 50/60HZ	626 - 0006	C		





THIS INFORMATION IS FOR MANUFACTURERS USE ONLY				
DASH NO	AMPERE	VOLTAGE	TRANSFER SWITCH	DWG SIZE
-01		208/240V	307-0931	C
-02	30	480V	307-0932	C
-03		600V	307-0933	C
-04		208/240V	307-0783	D
-05	60	480V	307-0846	D
-06		600V	307-1255	D
-07		208/240V	307-0784	D
-08	100	480V	307-0803	D
-09		600V	307-0894	D
-10		208/240V	307-1234	D
-11	200	480V	307-1232	D
-12		600V	307-1256	D
-13		208/240V	307-1221	D
-14	400	480V	307-1222	D
-15		600V	307-1223	D

[illegible]

626-0008

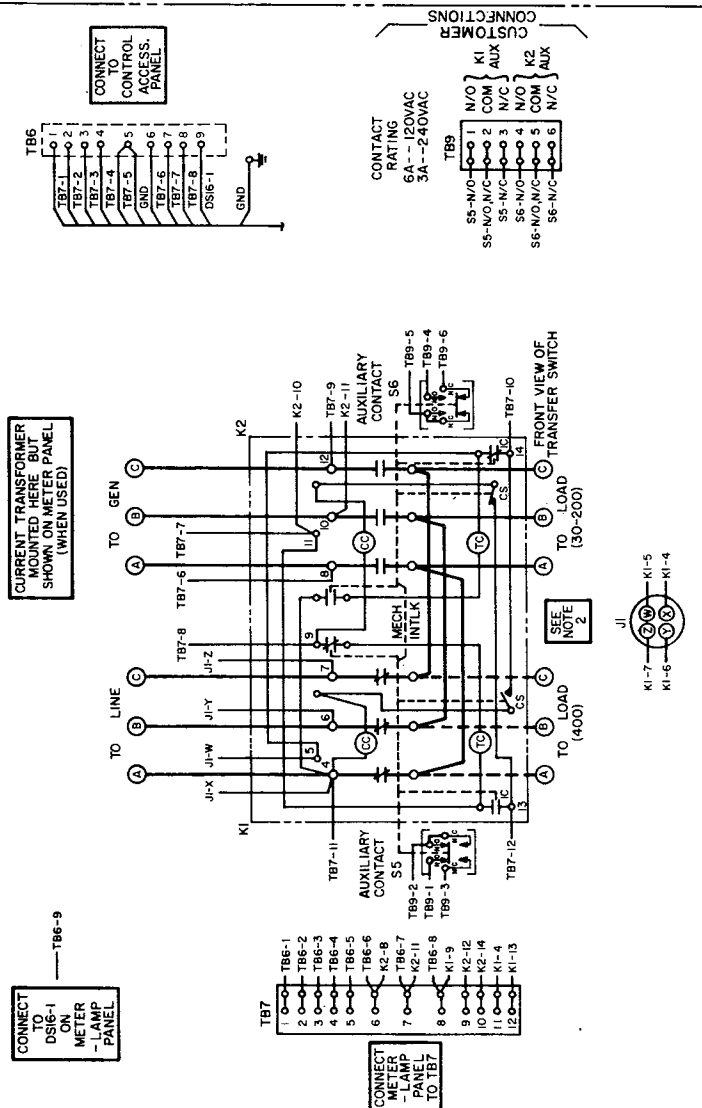
(C)	332-00050	-	1	CLAMP - LOCK

NOTES:

- TRANSFER SW MECHANICALLY HELD BOTH SIDES SHOWN LOCKED INTO NORMAL LINE  
NORMAL LINE SHOWN DE-ENERGIZED  
CC -- CLOSING COIL  
CS -- CLOSING SWITCH  
CS -- CUTOFF SWITCH  
IC -- INTERLOCK CONTACT
- CONNECT LOAD TO RIGHT SIDE OF TRANSFER SWITCH ON 30-200 AMP  
CONNECT LOAD TO LEFT SIDE OF TRANSFER SWITCH ON 400 AMP

TRANSFER SWITCH-CABINET ASSY: D

TRANSFER SW MECHANICALLY HELD BOTH SIDES  
AUXILIARY CONTACTS LINE & GEN SIDE  
CABINET (LESS METER PANEL)

[illegible]

# CONTROL ACCESSORY PANELS\*

DIAGRAM	PAGE
<b>Begin Spec B</b>	
626-0137 Group 11, 1 Phase .....	28-29
626-0138 Group 11, 3 Phase .....	30-31
626-0139 Group 12, 1 Phase .....	32-33
626-0140 Group 12, 3 Phase .....	34-35
626-0141 Group 13, 1 Phase .....	36-37
626-0142 Group 13, 3 Phase .....	38-39
626-0143 Group 14, 1 Phase .....	40-41
626-0144 Group 14, 3 Phase .....	42-43
626-0145 Group 15, 3 Phase .....	44-45
626-0146 Group 15, 1 Phase .....	46-47
<b>Spec A</b>	
626-0037 Group 11, 1 Phase .....	48-49
626-0038 Group 11, 3 Phase .....	50-51
626-0039 Group 12, 1 Phase .....	52-53
626-0040 Group 12, 3 Phase .....	54-55
626-0041 Group 13, 1 Phase .....	56-57
626-0042 Group 13, 3 Phase .....	58-59
626-0043 Group 14, 1 Phase .....	60-61
626-0044 Group 14, 3 Phase .....	62-63
626-0045 Group 15, 1 Phase or 3 Phase .....	64-65
626-0046 Group 15, 1 Phase .....	66-67

\* See index on page 121 for the module wiring diagrams of the control accessory panels.



**D**




2. WIRE START ON AT C & AT D  
CONNECT TO B<sub>1</sub>, GND & RMT  
3. WIRE START ON AT E  
CONNECT TO B<sub>1</sub>, I, 2, & 3
3. FOR 12V BATTERY CONNECT WIRE MARKED  
T-X2-X3 R1-2,3 BETWEEN T-X2 & R1-2 (AT D & E)  
FOR 24V BATTERY CONNECT WIRE MARKED  
T-X2-X3 R1-2,3 BETWEEN T-X3 & R1-3 (AT C)
4. TO ADD AREA PROTECTION EQUIPMENT,  
OR REMOVE TEST TRANSFER SWITCH,  
REMOVE JUMPER BETWEEN TBI - 4 & 5
5. TO ADD OVER-VOLTAGE SENSING,  
REMOVE JUMPER BETWEEN T84-7 & 9
6. TO ADD OVER & UNDER FREQ SENSING,  
REMOVE JUMPER BETWEEN TB3-9 & 11
7. TO ADD PUSH TO RETRANSFER (MOTOR  
TIMER) REMOVE JUMPER BETWEEN  
T84 - 5 & 7
8. THIS CONTACT SYMBOLIZES A SOLID  
STATE SWITCH THAT CLOSURES WHEN  
VOLTAGE IS NORMAL (AI & A4)
9. TEST OR EXERCISE (S2 SHOWN IN  
WITHOUT LOAD POSITION)
  91. WITH LOAD - PLANT STARTS AND  
TAKES OVER LOAD. PLANT RUNS  
FOR DURATION OF TEST OR  
EXERCISE PERIOD PLUS ANY  
TIME DELAYS
  92. WITHOUT LOAD - PLANT STARTS  
AND RUNS FOR DURATION OF  
TEST OR EXERCISE PERIOD
10. THIS CONTACT SYMBOLIZES A SOLID  
STATE SWITCH WHICH CLOSURES AFTER  
0.5 SEC TO 10 SEC DELAY AND OPENS  
AFTER 0.5 MIN TO 5 MIN DELAY
11. OVERCRANK SIGNAL ON AT E ONLY.  
CONNECT TO TERMINAL 53 IN REMOTE  
ANNUNCIATOR
12. 2 TO 3 WIRE CONVERTER (USED ON AT E  
ONLY) THE SELECTOR SWITCH HAS THREE  
POSITIONS:  
STOP ----- SHUTS DOWN THE PLANT AND  
PREVENTS IT FROM STARTING.  
USE THIS POSITION WHEN  
SERVICING THE PLANT.  
NORMAL ----- ALLOWS THE PLANT TO START  
AND ASSUME THE LOAD IF A  
LINE FAILURE OCCURS.  
HAND CRANK ----- PREVENTS AUTOMATIC PLANT  
STARTING BUT ALLOWS STARTING  
AND STOPPING AT THE PLANT.  
USE THIS POSITION FOR PLANT  
MAINTENANCE.
13. TO ADD PARALLELING SWITCH BOARD TRANSFER

BATTERY CHARGER MODULE  
1 UNDER VOLTAGE SENSOR MODULES (LINE)  
1 UNDER VOLTAGE SENSOR MODULE (GEN)  
NORMAL - TEST SWITCH  
WITH LOAD - WITHOUT LOAD SWITCH  
2 TO 3 CONVERTER (AT E ONLY)

TD START - STOP

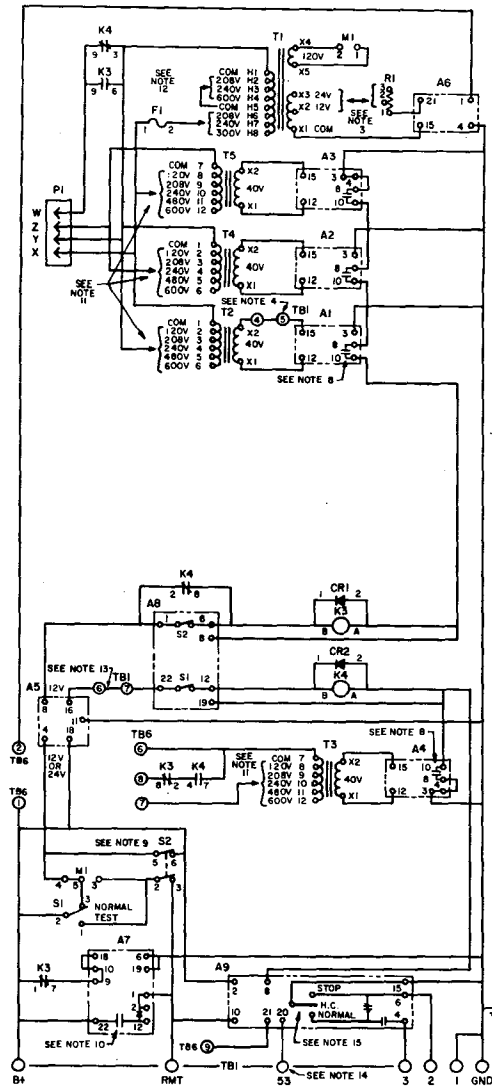
THIS INFORMATION IS FOR MANUFACTURERS USE ONLY	
MODEL	50/60Hz
AT C	-01
AT D	-02
AT E	-03

REF DES	PART NO	QTY	PARTS LIST
A1	300-0780	C	I UNDER VOLTAGE SENSOR (LINE)
A2, 3	300-0937	B	Z MODULE - BLANK (SPARE)
A4	300-0780	C	I UNDER VOLTAGE SENSOR (GEN)
A5	300-0647	B	I MODULE-VOLTAG 12V (AT D B E)
	300-0648	C	I MODULE-24V TO 12V CONVERTER (AT C)
A6	300-0793	C	I BATTERY CHARGER-2 AMP (AT D B E)
	300-0794	C	I BATTERY CHARGER-2 AMP (AT C)
A7	300-0921	C	I TO START STOP 12V (AT D B E)
	300-0922	C	I TO START STOP 24V (AT C)
			O 0.5 SEC TO 0.5EC DELAY ON START O 0.5 SEC TO 5 MIN DELAY ON STOP
A8	300-0927	B	I BYPASS PLUG-TRANSFER SET S1 ON & S2 ON
A9	300-0937	B	I MODULE - BLANK (SPARE) (AT C B E)
	300-0926	B	I 2 TO 3 WIRE CONVERTER (AT E)
A10, U2	300-0937	B	S MODULE - BLANK (SPARE)
A19	300-1133	C	I PANEL ASSY-SWINGING
F1	321-0180(REF)	P	I FUSE - 1 AMP 600V
	321-0180(REF)	P	I FUSE - HOLDER
K3	307-1058	B	I RELAY - INTERPOSING LINE 12V
K4	307-1058	B	I RELAY - INTERPOSING GEN 12V
M1	332-1484	A	I PLATE - CLOCK COVER
P1	323-0901(REF)	A	I PLUG-LINE DISCONNECT
R1	323-0040(REF)	A	I RESISTOR - 6 OHM 2.5 OHM TAP 75W
SI	308-0321(REF)	P	I SWITCH-TEST TRANSFER
S2	308-0322(REF)	P	I SWITCH - SELECTOR
T1	315-0379(REF)	B	I TRANSFORMER-BAT CHARGER
T2, 3	315-0374(REF)	C	I TRANSFORMER ASSY-STEEPDOWN
TB1	332-1699	A	I MARKER STRIP
YB6	332-1469	A	I MARKER STRIP
	338-0770(REF)	E	I HARNESS-MAIN
	332-1279	-	7 PLUG-KEYING
	323-084	P	4 GUIDES - PC BOARD
	301-3593	B	I COVER-RACK

REF ID: A66041		LET	REVISION	CAR NUMBER	DATE
FORM 7-64 1-1-74		 Ogden		DIVISION OF BRAC CORRECTIONS Minneapolis, Minnesota	
MODEL AT C AT D } SPEC B AT E		DATE	4-8-74	CDR	FORM 7-64 WJE
CONTROL ACCESS. PANEL (WIRING DIAGRAM)					
240V, 2W, 120/240V, 3W, 1PH., 50/60HZ		SERIAL FROM (SEE NO)	626-0137		

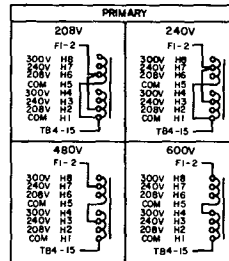


SCHEMATIC DIAGRAM



NOTES:

1. ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
2. WIRE START ON AT C & AT D CONNECT TO B+, GND & RMT 3 WIRE START ON AT E CONNECT TO B+, I, 2, & 3
3. FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2, 3 BETWEEN T1-X2 & R1-2 (AT D & E) FOR 24V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2, 3 BETWEEN T1-X3 & R1-3 (AT C)
4. TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TBI-4 & 5
5. TO ADD OVER-VOLTAGE SENSING, REMOVE JUMPER BETWEEN TBI-7 & 9
6. TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TBI-3 & 11
7. TO ADD PUSH TO RETRANSFER (MOTOR TIMER) REMOVE JUMPER BETWEEN TBI-4 & 7
8. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE IS NORMAL (A1, A2, A3, & A4)
9. TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
  - 9.1. WITH LOAD - PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
  - 9.2. WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
10. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER 0.5 SEC TO 15 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
11. WIRE TRANSFORMERS T2, 3, 4, 5 AS FOLLOWS
  - T2-1 TO T2-3 FOR 208V CONNECT TBI-7 TO T3-9 T5-7 TO T4-3 T2-1 TO T5-9 T4-1 TO T2-4 TBI-7 TO T3-10 T5-7 TO T4-4 T2-1 TO T5-10 T4-1 TO T2-5
  - T3-7 TO T3-11 T5-7 TO T4-5 T2-1 TO T5-11 T4-1 TO T2-6
  - TBI-7 TO T3-12 T5-7 TO T4-6 T2-1 TO T5-12
12. WIRE T1 TRANSFORMER AS FOLLOWS:



REF DES	PART NO	ATT	QTY	DESCRIPTION
A1, 2, 3	300-0780	C	3	UNDER VOLTAGE SENSOR (LINE)
A4	300-0780	C	1	UNDER VOLTAGE SENSOR (GEN)
A5	300-0847	B	1	MODULE - VOLTAGE 12V (AT D & E)
B	300-0848	B	1	MODULE - 24V TO 12V CONVERTER (AT C)
A6	300-0793	C	1	BATTERY CHARGER - 2 AMP 24V (AT D & E)
A7	300-0794	C	1	BATTERY CHARGER - 2 AMP 24V (AT C)
A7	300-0921	C	1	TO START - STOP 12V (AT D & E)
	300-0922	C	1	TO START - STOP 24V (AT C)
				0.5 SEC TO 15 SEC DELAY ON START
				0.5 SEC TO 5 MIN DELAY ON STOP
A8	300-0927	B	1	BYPASS PLUG - TRANSFER SET S1 ON & S2 ON
A9	300-0937	B	1	MODULE - BLANK (SPARE) (AT C & D)
	300-0926	C	1	2 TO 3 WIRE CONVERTER (AT E)
A10	300-0937	B	1	MODULE - BLANK (SPARE)
A11, 12	300-0937	B	2	MODULE - BLANK (SPARE)
A19	300-1134	C	1	PANEL ASSY - SWINGING
F1	321-080REF	P	1	FUSE - 1 AMP 600V
	321-080REF	P	1	FUSE - HOLDER
K3	307-1058	B	1	RELAY - INTERPOSING LINE 12V
K4	307-1058	B	1	RELAY - INTERPOSING GEN 12V
M1	332-1484	A	1	PLATE - CLOCK COVER
P1	323-0901REF	A	1	PLUG - LINE DISCONNECT
R1	333-0000REF	A	1	RESISTOR - 5 OHM 2.5 OHM TAP 75W
S1	308-0320REF	P	1	SWITCH - TEST TRANSFER
S2	308-0320REF	P	1	SWITCH - SELECTOR
T1	315-0379REF	B	1	TRANSFORMER - BAT CHARGER
T2-5	315-0374REF	C	2	TRANSFORMER ASSY - STEPCOWN
TBI	332-1699	A	1	MARKER STRIP
TBI	332-1463	A	1	MARKER STRIP
	338-0777REF	E	1	HARNES - MAIN
	332-1279	-	9	PLUG - KEYING
	301-3593	B	1	COVER - RACK
	332-0050	-	1	CLIP - WIRE

13. TO ADD PARALLELING SWITCH BOARD TRANSFER INHIBIT CIRCUIT, REMOVE JUMPER TBI-6 & 7
14. OVERCRANK SIGNAL ON AT E ONLY. CONNECT TO TERMINAL S3 IN REMOTE ANNUNCIATOR
15. 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY) THE SELECTOR SWITCH HAS THREE POSITIONS:
  - STOP - SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.
  - NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.
  - HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.

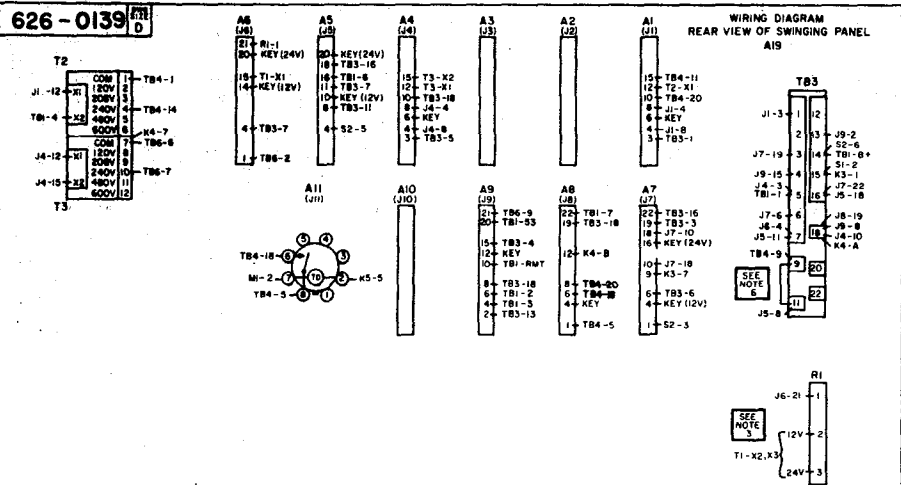
CONTROL ACCESSORY GROUP: 11

- BATTERY CHARGER MODULE
- 3 UNDER VOLTAGE SENSOR MODULES (LINE)
- 1 UNDER VOLTAGE SENSOR MODULE (GEN)
- NORMAL - TEST SWITCH
- WITH LOAD - WITHOUT LOAD SWITCH
- 2 TO 3 CONVERTER (AT E ONLY)
- TO START - STOP

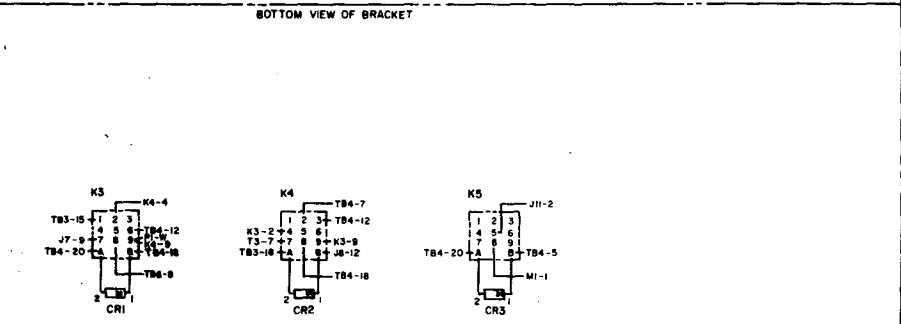
THIS INFORMATION IS FOR MANUFACTURERS USE ONLY	
MODEL	50/60Hz
AT C	-01
AT D	-02
AT E	-03

REV	1	DATE	5-1-74
DIVISION OF OMA CORPORATION Hawthorne, Minnesota			
REV	4-9-74	CDR	WJG
SPEC B			
CONTROL ACCESS. PANEL (WIRING DIAGRAM)			
208, 240, 480, 600V, 3PH, 4W, 50/60Hz		626-0138	

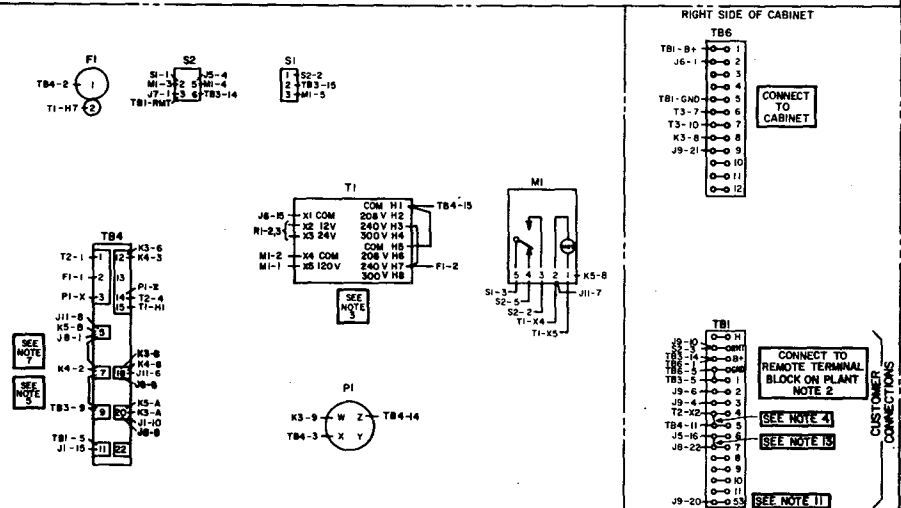
626-0139 <sup>PH</sup><sub>D</sub>



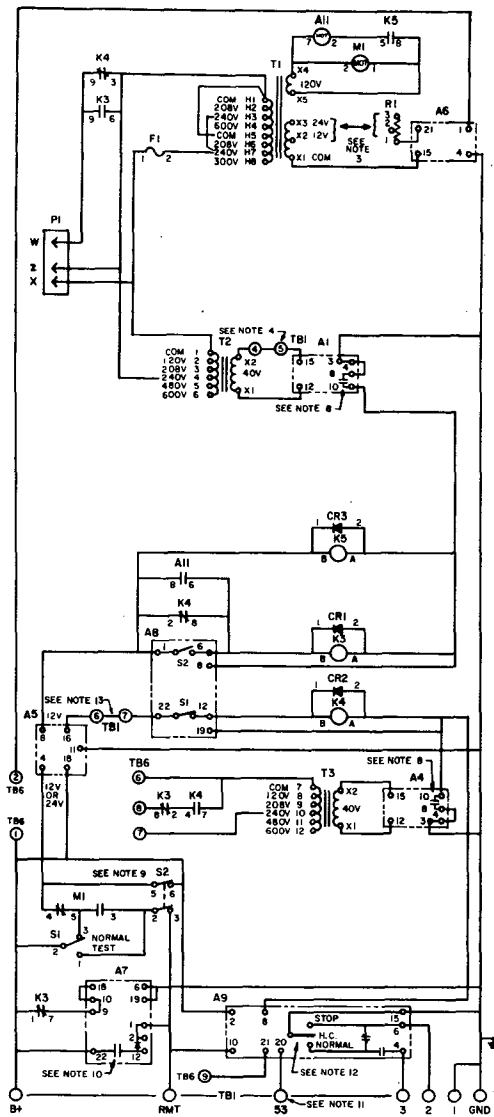
**BOTTOM VIEW OF BRACKET**



**RIGHT SIDE OF CABINET**



SCHEMATIC DIAGRAM



NOTES:

- ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
- 2 WIRE START ON AT C & AT D CONNECT TO B, GND & RMT 3 WIRE START ON AT E CONNECT TO B, 1, 2, & 3
- FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2, 3 BETWEEN T1-X2 & R1-2 (AT D & E) FOR 24V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2, 3 BETWEEN T1-X2 & R1-3 (AT C)
- TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH REMOVE JUMPER BETWEEN TBI-4 & 5
- TO ADD OVER-VOLTAGE SENSING, REMOVE JUMPER BETWEEN TB4-7 & 9
- TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TB3-9 & 11
- TO ADD PUSH TO RETRANSFER (MOTOR TIMER) REMOVE JUMPER BETWEEN TB4-5 & 7
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSSES WHEN VOLTAGE IS NORMAL (A1 & A4)
- TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
  - WITH LOAD - PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
  - WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSSES AFTER 0.5 SEC TO 10 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
- OVERCRANK SIGNAL ON AT E ONLY. CONNECT TO TERMINAL 53 IN REMOTE ANNUNCIATOR
- 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY) THE SELECTOR SWITCH HAS THREE POSITIONS:
  - STOP - SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.
  - NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.
  - HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.
- TO ADD PARALLELING SWITCH BOARD TRANSFER INHIBIT CIRCUIT, REMOVE JUMPER TBI-6 & 7

CONTROL ACCESSORY GROUP: 12  
BATTERY CHARGER MODULE  
1 UNDER VOLTAGE SENSOR MODULES (LINE)  
1 UNDER VOLTAGE SENSOR MODULE (GEN)  
NORMAL - TEST SWITCH  
WITH LOAD - WITHOUT LOAD SWITCH  
2 TO 3 CONVERTER (AT E ONLY)  
EXERCISER CLOCK  
TO START - STOP

TO RETRANSFER (MOTOR)

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

MODEL	60 Hz	50 Hz
AT C	-01	-04
AT D	-02	-05
AT E	-03	-06

REF DES	PART NO	QTY	DESCRIPTION
A1	300-0780	1	UNDER VOLTAGE SENSOR (LINE)
A2, 3	300-0937	2	MODULE - BLANK (SPARE)
A4	300-0780	1	UNDER VOLTAGE SENSOR (GEN)
A5	300-0847	1	MODULE - VOLTAGE 12V (AT D & E)
A6	300-0848	1	MODULE - 24V TO 12V CONVERTER (AT C)
A6	300-0793	1	BATTERY CHARGER - 2 AMP (AT D & E)
A7	300-0794	1	BATTERY CHARGER - 2 AMP (AT C)
A7	300-0921	1	TO START STOP 12V (AT D & E)
A7	300-0922	1	TO START STOP 24V (AT C)
A8	300-0927	1	0.5 SEC TO 10 SEC DELAY ON START
A8	300-0927	1	0.5 SEC TO 5 MIN DELAY ON STOP
A8	300-0927	1	BYPASS PLUG - TRANSFER
A9	300-0937	1	SET STOP & S2 OFF
A9	300-0937	1	MODULE - BLANK (SPARE) (AT C & D)
A10	300-0926	1	2 TO 3 WIRE CONVERTER (AT E)
A10	300-0937	1	MODULE - BLANK (SPARE)
A11	307-1199	1	ASSY - RETRANSFER 120V 50/60Hz
A19	300-1133	1	PANEL ASSY - SWINGING
F1	321-0100REF	1	FUSE - 1 AMP 600V
F1	321-0178REF	1	FUSE - HOLDER
K3	307-1058	1	RELAY - INTERPOSING LINE 12V
K4	307-1058	1	RELAY - INTERPOSING GEN 12V
K5	307-1058	1	RELAY - TIMER 12V
M1	307-1104	1	CLOCK - PLANT EXERCISER 120V 50Hz
M1	307-1102	1	CLOCK - PLANT EXERCISER 120V 60Hz
P1	323-0200REF	1	PLUG - LINE DISCONNECT
R1	353-0044REF	1	RESISTOR - 6 OHM 2.5 OHM TAP 75W
S1	308-0321REF	1	SWITCH - TEST TRANSFER
S2	308-0322REF	1	SWITCH - SELECTOR
T1	315-0379REF	1	TRANSFORMER - BAT CHARGER
T2, 3	315-0374REF	1	TRANSFORMER ASSY - STEPDOWN
TBI	332-1669	1	MARKER STRIP
TB6	332-1469	1	MARKER STRIP
	338-0776REF	1	HARNESS - MAIN
	338-0677	1	HARNESS - MOTOR TIMER
	332-1279	1	PLUG - KEYING
	301-3593	1	COVER - RACK
	307-1157	1	SPRING - RELAY HOLDDOWN

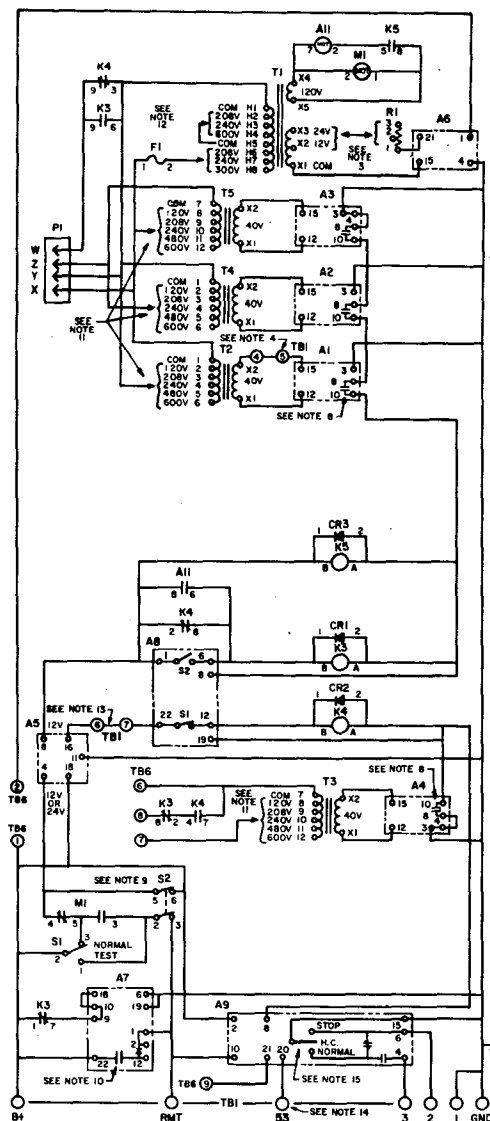
626-0139

REV	DATE	BY	CHKD	DATE
1	10/1/74	J. L. H.		
DIVISION OF ORIGIN COMPLETION				
4-16-74 CDR J. L. H.				
CONTROL ACCESS. PANEL				
(WIRING DIAGRAM)				
240V/2W, 120/240V, 3W				
1PH, 50/60Hz				
626-0139				



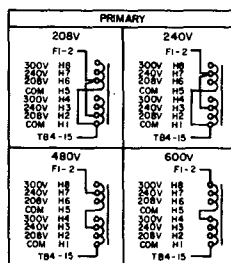


# SCHMATIC DIAGRAM



- NOTES:
1. ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
  2. WIRE START ON AT C & AT D CONNECT TO B+, GND & RMT 3 WIRE START ON AT E CONNECT TO B+, I-2, & 3
  3. FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2, 3 BETWEEN T1-X2 & R1-2 (AT D & E) FOR 24V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2, 3 BETWEEN T1-X2 & R1-3 (AT C)
  4. TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TBI-4 & 5
  5. TO ADD OVER-VOLTAGE SENSING, REMOVE JUMPER BETWEEN TBI-7 & 9
  6. TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TB3-9 & 11
  7. TO ADD PUSH TO RETRANSFER (MOTOR TIMER) REMOVE JUMPER BETWEEN TB4-5 & 7
  8. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE IS NORMAL (A1, A2, A3, A4)
  9. TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
    - 9.1. WITH LOAD - PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
    - 9.2. WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
  10. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER 0.5 SEC TO 15 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
  11. WIRE TRANSFORMERS T2, 3, 4 & 5 AS FOLLOWS
 

FOR 208V CONNECT	T4-1 TO T2-3
	T6-7 TO T3-9
	T5-7 TO T4-3
	T2-1 TO T5-9
	T4-1 TO T2-4
FOR 240V CONNECT	T6-7 TO T3-10
	T5-7 TO T4-4
	T2-1 TO T5-10
	T4-1 TO T2-5
FOR 480V CONNECT	T6-7 TO T3-11
	T5-7 TO T4-5
	T2-1 TO T5-11
	T4-1 TO T2-6
FOR 600V CONNECT	T6-7 TO T3-12
	T5-7 TO T4-6
	T2-1 TO T5-12
  12. WIRE T1 TRANSFORMER AS FOLLOWS:



REF DES	PART NO	QTY	PARTS LIST	DESCRIPTION
A1, 2, 3	300-0780	C 3	UNDER VOLTAGE SENSOR	(LINE)
A4	300-0780	C 1	UNDER VOLTAGE SENSOR	(GEN)
A5	300-0847	B 1	MODULE - VOLTAGE 12V	(AT D & E)
A6	300-0848	B 1	MODULE - 24V TO 12V CONVERTER	(AT C)
A7	300-0793	C 1	BATTERY CHARGER - 2 AMP 24V	(AT D & E)
A7	300-0794	C 1	BATTERY CHARGER - 2 AMP 24V	(AT C)
A7	300-0921	C 1	TD START - STOP 12V	(AT D & E)
A7	300-0922	C 1	TD START - STOP 24V	(AT C)
A8	300-0927	B 1	0.5 SEC TO 15 SEC DELAY ON START	
A8	300-0927	B 1	0.5 SEC TO 5 MIN DELAY ON STOP	
A8	300-0927	B 1	BYPASS PLUG - TRANSFER	
A8	300-0927	B 1	SET SI ON B, S2 OFF	
A9	300-0937	B 1	MODULE - BLANK (SPARE)	(AT C & D)
A9	300-0926	C 1	2 TO 3 WIRE CONVERTER	(AT E)
A10	300-0937	B 1	MODULE - BLANK (SPARE)	
A11	307-1199	B 1	ASSY - RETRANSFER 120V	50/60Hz
A19	300-1134	C 1	PANEL ASSY - SWINGING	
F1	321-0180 (REF)	P 1	FUSE - 1 AMP 600V	
F1	321-0176 (REF)	P 1	FUSE - HOLDER	
K3	307-1058	B 1	RELAY - INTERPOSING LINE 12V	
K4	307-1058	B 1	RELAY - INTERPOSING GEN 12V	
K5	307-1058	B 1	RELAY - TIMER 12V	
M1	307-1104	B 1	CLOCK - PLANT EXERCISER 120V 50Hz	
M1	307-1102	B 1	CLOCK - PLANT EXERCISER 120V 60Hz	
P1	323-0309 (REF)	A 1	PLUG - LINE DISCONNECT	
R1	333-0348 (REF)	A 1	RESISTOR - 6 OHM 2.5 OHM TAP 75W	
S1	308-0322 (REF)	P 1	SWITCH - TEST TRANSFER	
S2	308-0322 (REF)	P 1	SWITCH - SELECTOR	
T1	315-0379 (REF)	B 1	TRANSFORMER - BAT CHARGER	
T2-5	315-0379 (REF)	C 2	TRANSFORMER ASSY - STEPDOWN	
TBI	332-1699	A 1	MARKER STRIP	
TBI	332-1469	A 1	MARKER STRIP	
	338-0777 (REF)	E 1	HARNESS - MAIN	
	338-0677	C 1	HARNESS - MOTOR TIMER	
	332-1279	- 13	PLUG - KEYING	
	301-3593	B 1	COVER - RACK	
	332-0050	- 1	CLIP - WIRE	

13. TO ADD PARALLELING SWITCH BOARD TRANSFER INHIBIT CIRCUIT, REMOVE JUMPER TBI-6 & 7
14. OVERCRANK SIGNAL ON AT E ONLY. CONNECT TO TERMINAL 53 IN REMOTE ANNUNCIATOR
15. 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY) THE SELECTOR SWITCH HAS THREE POSITIONS:
  - STOP - SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.
  - NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS
  - HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.

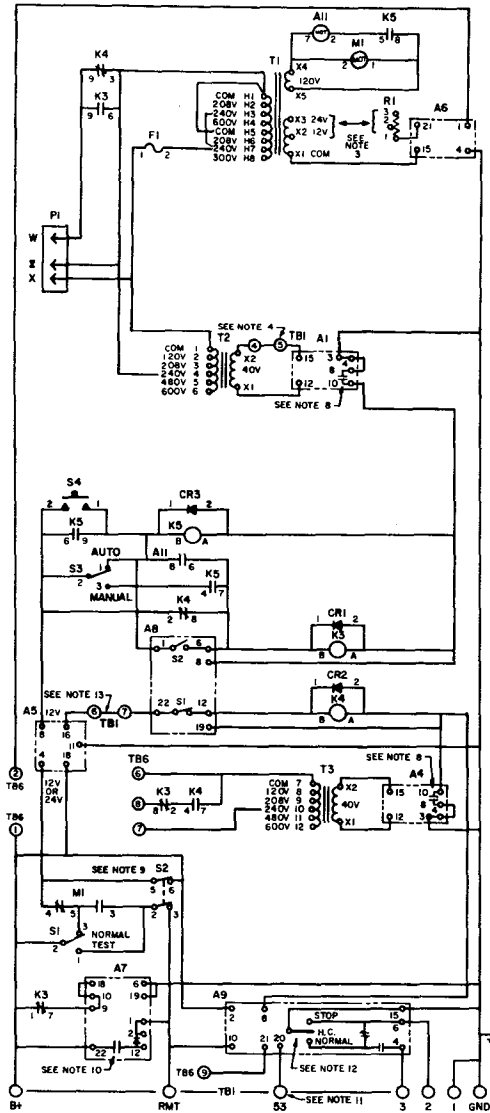
CONTROL ACCESSORY GROUP 12  
BATTERY CHARGER MODULE  
3 UNDER VOLTAGE SENSOR MODULES (LINE)  
1 UNDER VOLTAGE SENSOR MODULE (GEN)  
NORMAL - TEST SWITCH  
WITH LOAD - WITHOUT LOAD SWITCH  
2 TO 3 CONVERTER (AT E ONLY)  
EXERCISER CLOCK  
TO START - STOP  
TO RETRANSFER (MOTOR)

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY	
MODEL	60 Hz 50 Hz
AT C	-01 -04
AT D	-02 -05
AT E	-03 -06

DATE	4-16-74	CDR	626-0140
CONTROL ACCESS. PANEL (WIRING DIAGRAM)			
DATE	4-16-74	CDR	626-0140
DATE	4-16-74	CDR	626-0140



# SCHEMATIC DIAGRAM



## NOTES

1. ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
2. WIRE START ON AT C & AT D CONNECT TO B, GND & RMT
3. WIRE START ON AT E CONNECT TO B, 1, 2, & 3
3. FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2, 3 BETWEEN T1-X2 & R1-2 (AT D & E) FOR 24V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2, 3 BETWEEN T1-X3 & R1-3 (AT C)
4. TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TBI-4 & 5
5. TO ADD OVER-VOLTAGE SENSING, REMOVE JUMPER BETWEEN TB4-7 & 9
6. TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TB3-9 & 11
7. REMOVE JUMPER BETWEEN TB4-5 & 7
8. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE IS NORMAL (AT & A4)
9. TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
  - 9.1. WITH LOAD - PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
  - 9.2. WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
10. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER 0.5 SEC TO 10 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
11. OVERCRANK SIGNAL ON AT E ONLY. CONNECT TO TERMINAL S3 IN REMOTE ANNUNCIATOR.
12. 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY) THE SELECTOR SWITCH HAS THREE POSITIONS:
  - STOP - SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.
  - NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.
  - HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.
13. TO ADD PARALLELING SWITCH BOARD TRANSFER INHIBIT CIRCUIT, REMOVE JUMPER TBI-6 & 7

## CONTROL ACCESSORY GROUP: 13

BATTERY CHARGER MODULE  
1 UNDER VOLTAGE SENSOR MODULES (LINE)  
1 UNDER VOLTAGE SENSOR MODULE (GEN)  
NORMAL - TEST SWITCH  
WITH LOAD - WITHOUT LOAD SWITCH  
2 TO 3 CONVERTER (AT E ONLY)  
EXERCISER CLOCK  
TO START - STOP  
PUSH TO RETRANSFER SWITCH  
AUTO-MANUAL RETRANSFER SWITCH

## TO RETRANSFER (MOTOR)

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

MODEL	60 Hz	50 Hz
AT C	-01	-04
AT D	-02	-05
AT E	-03	-06

REF DES	PART NO	QUANTITY	DESCRIPTION
A1	300-0780	C	UNDER VOLTAGE SENSOR (LINE)
A2,3	300-0937	B	MODULE - BLANK (SPARE)
A4	300-0780	C	UNDER VOLTAGE SENSOR (GEN)
A5	300-0847	B	MODULE - VOLTAGE 12V (AT D & E)
A6	300-0848	B	MODULE - 24V TO 12V CONVERTER (AT C)
A7	300-0793	C	BATTERY CHARGER - 2 AMP (AT C)
A8	300-0921	C	TO START STOP 12V (AT D & E)
A9	300-0922	C	TO START STOP 24V (AT C)
A10	300-0926	C	0.5 SEC TO 10 SEC DELAY ON START
A11	300-0927	B	0.5 SEC TO 5 MIN DELAY ON STOP
A12	300-0927	B	BYPASS PLUG - TRANSFER SET SI ON & S2 OFF
A13	300-0937	B	MODULE - BLANK (SPARE) (AT C & D)
A14	300-0937	B	2 TO 3 WIRE CONVERTER (AT E)
A15	300-0937	B	MODULE - BLANK (SPARE)
A16	307-1199	B	ASSY - RETRANSFER 120V 50/60Hz
A17	300-1133	C	PANEL ASSY - SWINGING
F1	321-0100REF	P	FUSE - 1 AMP 600V
K3	321-0780REF	P	FUSE - HOLDER
K4	307-1058	B	RELAY - INTERPOSING LINE 12V
K5	307-1058	B	RELAY - INTERPOSING GEN 12V
M1	307-1104	B	CLOCK - PLANT EXERCISER 120V 50Hz
M2	307-1102	B	CLOCK - PLANT EXERCISER 120V 60Hz
P1	323-0901REF	A	PLUG - LINE DISCONNECT
R1	333-0046REF	A	RESISTOR - 6 OHM 2.5 OHM TAP 75W
S1	308-0321REF	P	SWITCH - TEST TRANSFER
S2	308-0322REF	P	SWITCH - SELECTOR
S3	308-0321	P	SWITCH - MANUAL & AUTO
S4	308-0175	A	SWITCH - RETRANSFER
T1	315-0375REF	B	TRANSFORMER - BAT CHARGER
T2,3	315-0374REF	C	TRANSFORMER ASSY - STEPDOWN
TBI	332-1699	A	MARKER STRIP
TBI	332-1469	A	MARKER STRIP
TBI	338-0775REF	E	HARNES - MAIN
TBI	338-0664	C	HARNES - RETRANSFER
TBI	338-0677	C	HARNES - MOTOR TIMER
TBI	332-1279	-	PLUG - KEYING
TBI	301-3593	B	COVER - RACK
TBI	307-1157	P	SPRING - RELAY HOLDDOWN

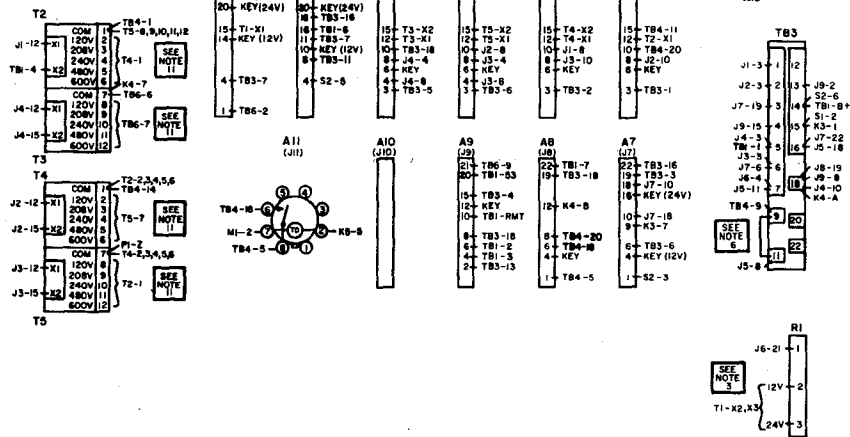
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4-17-74 1st CDR [Signature] WLB

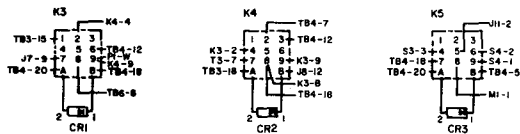
CONTROL ACCESS. PANEL (WIRING DIAGRAM)

626-0141

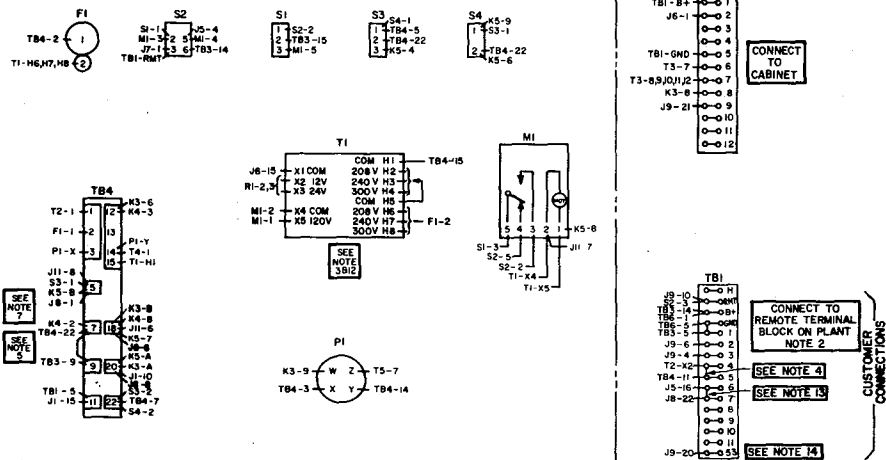
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P1  
DWIRING DIAGRAM  
REAR VIEW OF SWINGING PANEL  
A19

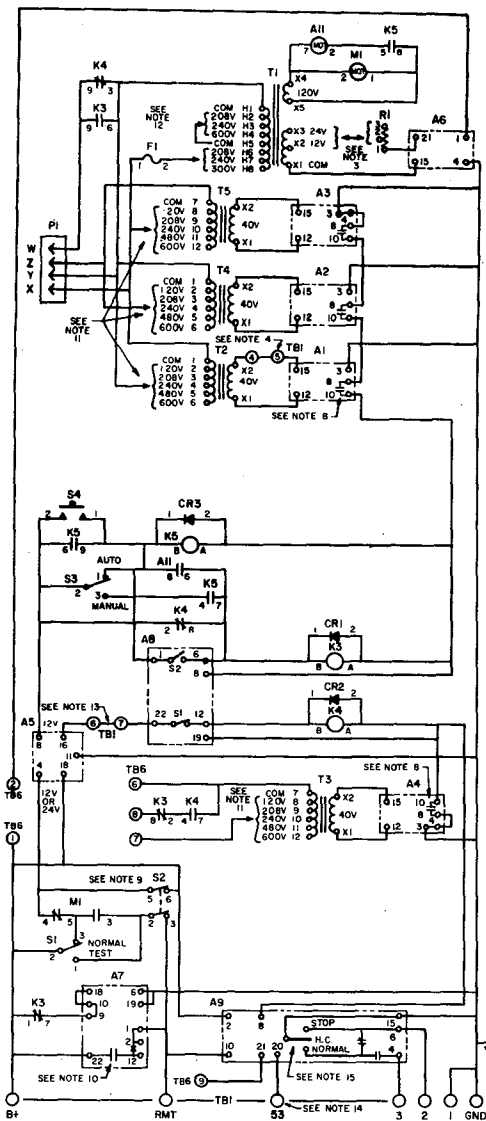
## BOTTOM VIEW OF BRACKET



## RIGHT SIDE OF CABINET

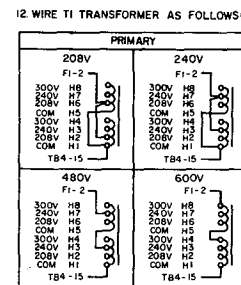


SCHEMATIC DIAGRAM



NOTES

- ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
- 2 WIRE START ON AT C & D CONNECT TO B+, GND & RMT 3 WIRE START ON AT E CONNECT TO B+, L2, & B3
- FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2,3 BETWEEN T1-X2 & R1-2 (AT D & E) FOR 24V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2,3 BETWEEN T1-X3 & R1-3 (AT C)
- TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TBI-4 & B5
- TO ADD OVER-VOLTAGE SENSING, REMOVE JUMPER BETWEEN TB4-7 & B9
- TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TB4-7 & B11
- REMOVE JUMPER BETWEEN TB4-5 & B7
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE IS NORMAL (A1, A2, A3, & A4)
- TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
  - WITH LOAD - PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
  - WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER 0.5 SEC TO 15 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
- WIRE TRANSFORMERS T2, 3, 4 & 5 AS FOLLOWS
  - FOR 208V CONNECT T4-1 TO T2-3 TB6-7 TO T3-9 T5-7 TO T4-3 T2-1 TO T5-9 T4-1 TO T2-4
  - FOR 240V CONNECT TB6-7 TO T3-10 T5-7 TO T4-4 T2-1 TO T5-11
  - FOR 480V CONNECT T4-1 TO T2-5 TB6-7 TO T3-11 T5-7 TO T4-5 T2-1 TO T5-11
  - FOR 600V CONNECT TB6-7 TO T3-12 T5-7 TO T4-6 T2-1 TO T5-12



12. WIRE T1 TRANSFORMER AS FOLLOWS:

REF DES	PART NO	QTY	DESCRIPTION	(LINE)
A1,2,3	300-0780	C 3	UNDER VOLTAGE SENSOR	
A4	300-0780	C 1	UNDER VOLTAGE SENSOR (GEN)	
A5	300-0847	B 1	MODULE - VOLTAGE 12V (AT D & E)	
A6	300-0848	B 1	MODULE - 24V TO 12V CONVERTER (AT C)	
A7	300-0793	C 1	BATTERY CHARGER - 2 AMP 24V (AT D & E)	
A7	300-0921	C 1	TD START-STOP 12V (AT D & E)	
A7	300-0922	C 1	TD START-STOP 24V (AT C)	
A6	300-0927	B 1	0.5 SEC TO 15 SEC DELAY ON START 0.5 SEC TO 5 MIN DELAY ON STOP BYPASS PLUG-TRANSFER SET S1 ON & S2 OFF	
A9	300-0937	B 1	MODULE-BLANK (SPARE) (AT C & D)	
A10	300-0926	C 1	2 TO 3 WIRE CONVERTER (AT E)	
A10	300-0937	B 1	MODULE-BLANK (SPARE)	
A11	307-1199	B 1	ASSY-RETRANSFER 120V 50/60Hz	
A19	300-1134	C 1	PANEL ASSY-SWINGING	
F1	321-0806	P 1	FUSE - 1 AMP 600V	
F1	321-0178	P 1	FUSE - HOLDER	
K3	307-1058	B 1	RELAY-INTERPOSING LINE 12V	
K4	307-1058	B 1	RELAY-INTERPOSING GEN 12V	
K5	307-1058	B 1	RELAY-TIMER & RETRANSFER 12V	
M1	307-1104	B 1	CLOCK-PLANT EXERCISER 120V 50Hz	
M1	307-1102	B 1	CLOCK-PLANT EXERCISER 120V 60Hz	
P1	323-0906	A 1	PLUG-LINE DISCONNECT	
R1	353-0046	A 1	RESISTOR-6 OHM 2.5 OHM TAP 75W	
S1	308-0321	P 1	SWITCH-TEST TRANSFER	
S2	308-0322	P 1	SWITCH-SELECTOR	
S3	308-0521	P 1	SWITCH-MANUAL & AUTO	
S4	308-0195	A 1	SWITCH-RETRANSFER	
S4	98-2467	A 1	SILKSCREEN-RETRANSFER	
T1	315-0179	B 1	TRANSFORMER-BAT CHARGER	
T2-5	315-0374	C 2	TRANSFORMER ASSY-STEPPDOWN	
TBI	332-1659	A 1	MARKER STRIP	
TB6	332-1469	A 1	MARKER STRIP	
	338-0777	E 1	HARNES-MAIN	
	338-0664	C 1	HARNES-RETRANSFER	
	338-0677	C 1	HARNES-MOTOR TIMER	
	332-1279	- 9	PLUG-KEYING	
	301-3593	B 1	COVER-RACK	
	332-0050	- 1	CLIP-WIRE	

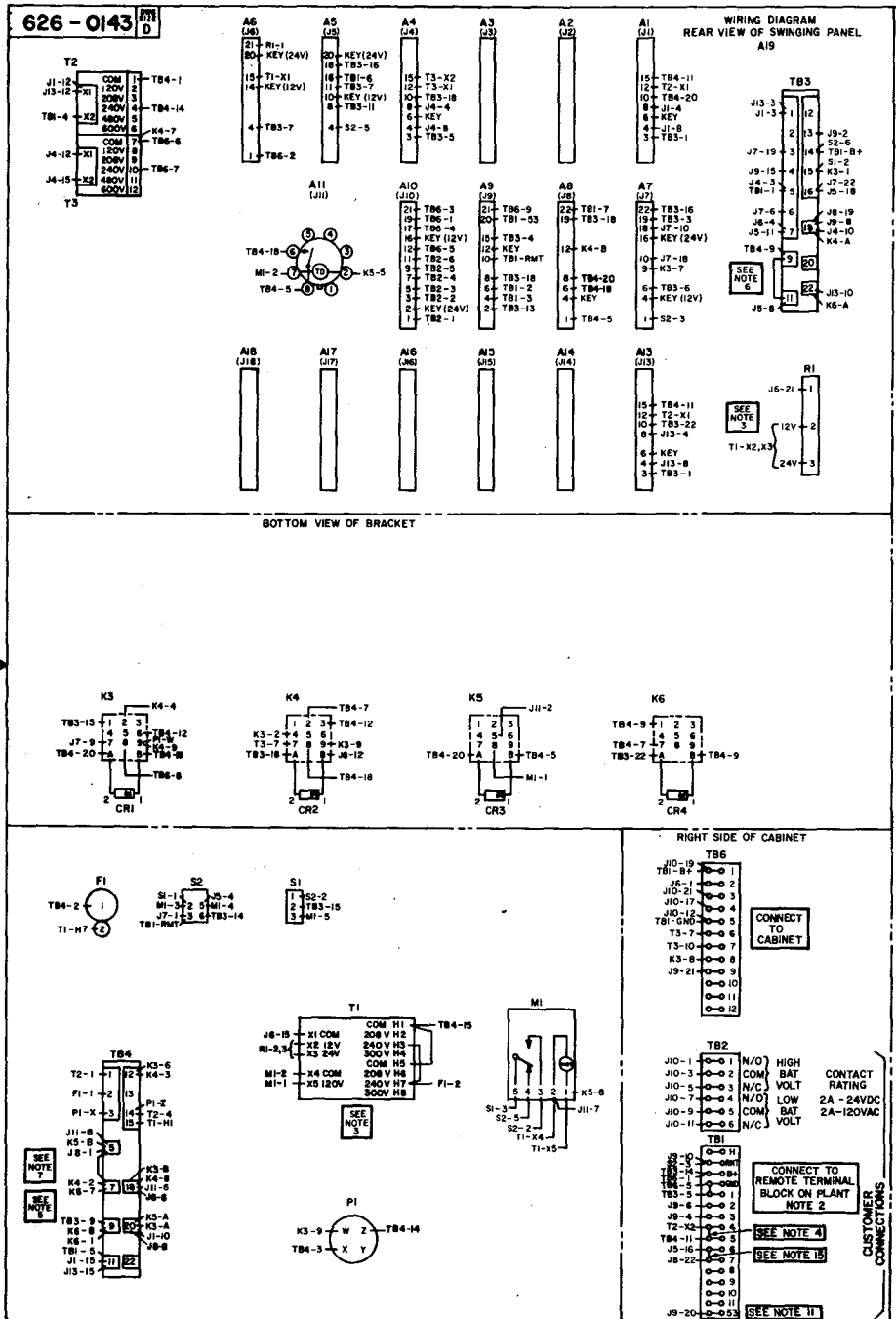
- TO ADD PARALLELING SWITCH BOARD TRANSFER INHIBIT CIRCUIT, REMOVE JUMPER TBI-6 & B7
- OVERCRANK SIGNAL ON AT E ONLY. CONNECT TO TERMINAL 53 IN REMOTE ANNUNCIATOR
- 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY) THE SELECTOR SWITCH HAS THREE POSITIONS:
  - STOP - SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.
  - NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.
  - HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.

CONTROL ACCESSORY GROUP: 13  
BATTERY CHARGER MODULE  
3 UNDER VOLTAGE SENSOR MODULES (LINE)  
1 UNDER VOLTAGE SENSOR MODULE (GEN)  
NORMAL - TEST SWITCH  
WITH LOAD-WITHOUT LOAD SWITCH  
2 TO 3 CONVERTER (AT E ONLY)  
EXERCISER CLOCK  
TO START-STOP  
TO RETRANSFER (MOTOR)  
PUSH TO RETRANSFER SWITCH  
AUTO-MANUAL RETRANSFER SW.

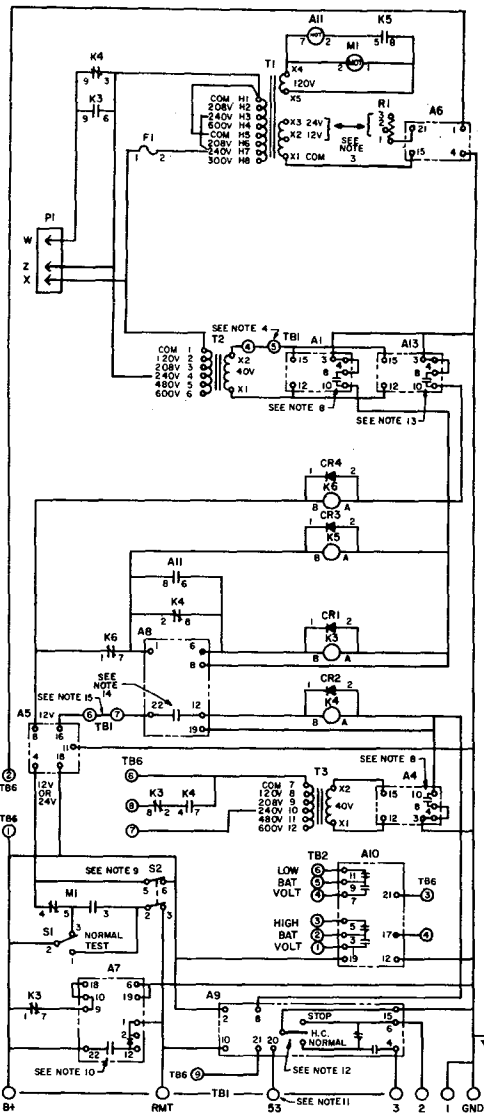
THIS INFORMATION IS FOR MANUFACTURERS USE ONLY			
MODEL	60 Hz	50 Hz	
AT C	-01	-04	
AT D	-02	-05	
AT E	-03	-06	

626-0142

PROJ	REV	DATE	BY	CHKD	DATE
4-15-74					
DIVISION OF ORCA CORPORATION					
4-15-74 CDR					
CONTROL ACCESS. PANEL (WIRING DIAGRAM)					
208,240,480,600V, 3PH, 4W, 50/60Hz					
626-0142					



# SCHEMATIC DIAGRAM



## NOTES:

- ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED.
- 2 WIRE START ON AT C & AT D CONNECT TO B+ GND & RMT.
- 3 WIRE START ON AT E CONNECT TO B+, 1, 2, & 3.
- FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 R2, 3 BETWEEN T1-X2 & R1-2 (AT D & E).
- FOR 24V BATTERY CONNECT WIRE MARKED T1-X2, X3 R2, 3 BETWEEN T1-X3 & R1-3 (AT C).
- TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TBI-4 & 5.
- REMOVE JUMPER BETWEEN TBI-7 & 9.
- TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TBI-9 & 11.
- TO ADD PUSH TO RETRANSFER (MOTOR TIMER) REMOVE JUMPER BETWEEN TBI-4 & 7.
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSING WHEN VOLTAGE IS NORMAL (A1 & A4).
- TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION).
- WITH LOAD - PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS.
- WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD.
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSING AFTER 0.5 SEC TO 10 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY.
- OVERCRANK SIGNAL ON AT E ONLY CONNECT TO TERMINAL 33, IN REMOTE ANNUNCIATOR.
- 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY) THE SELECTOR SWITCH HAS THREE POSITIONS:  
STOP - SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.  
NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.  
HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSING WHEN VOLTAGE GOES ABOVE NORMAL (A13).
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSING AFTER A DELAY OF 0.5 SEC TO 10 SEC DELAY ON LOAD TRANSFER.
- TO ADD PARALLELING SWITCH BOARD TRANSFER INHIBIT CIRCUIT, REMOVE JUMPER TBI-6 & 7.

## CONTROL ACCESSORY GROUP: 14

BATTERY CHARGER MODULE  
1 UNDER VOLTAGE SENSOR MODULE (LINE)  
1 UNDER VOLTAGE SENSOR MODULE (GEN)  
NORMAL - TEST SWITCH  
WITH LOAD - WITHOUT LOAD SWITCH  
2 TO 3 CONVERTER (AT E ONLY)  
EXERCISER CLOCK  
TD START - STOP  
TD TRANSFER  
BATTERY VOLTAGE SENSOR  
1 OVER VOLTAGE SENSOR MODULE (LINE)  
TD RETRANSFER (MOTOR)

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY			
MODEL	60 Hz	50 Hz	
AT C	-01	-04	
AT D	-02	-05	
AT E	-03	-06	

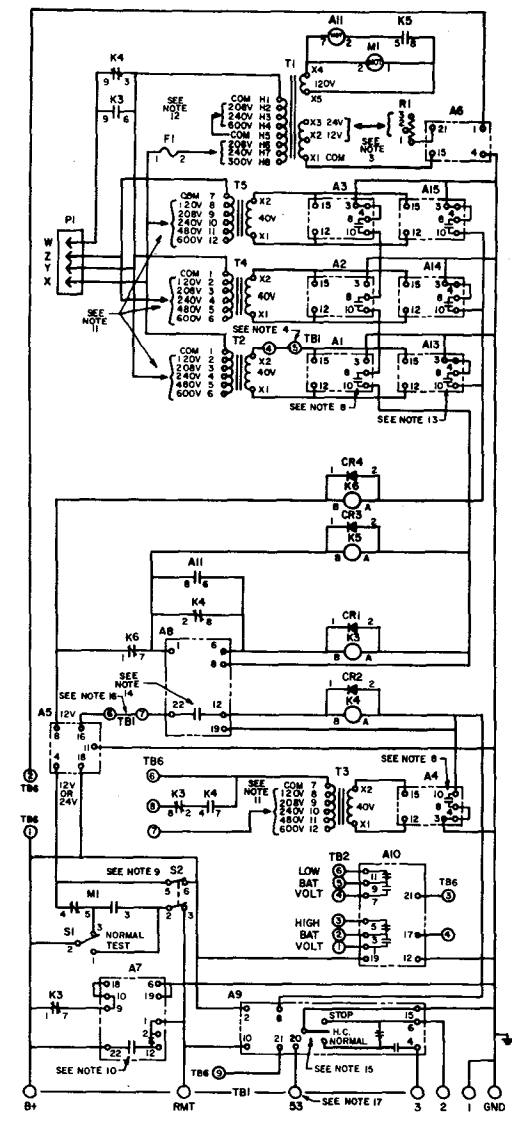
REF. DES.	PART NO.	QTY	DESCRIPTION
A1	300-0780	C	1 UNDER VOLTAGE SENSOR (LINE)
A2, 3	300-0937	B	2 MODULE - BLANK (SPARE)
A4	300-0780	C	1 UNDER VOLTAGE SENSOR (GEN)
A5	300-0647	B	1 MODULE - VOLTAGE 12V (AT D & E)
A6	300-0648	B	1 MODULE - 24V TO 12V CONVERTER (AT C)
A7	300-0793	C	1 BATTERY CHARGER - 2 AMP (AT D & E)
A8	300-0794	C	1 BATTERY CHARGER - 2 AMP (AT C)
A9	300-0821	C	1 TD START STOP 12V (AT D & E)
A10	300-0822	C	1 TD START STOP 24V (AT C)
A11	300-0924	C	1 TD START STOP 24V (AT C)
A12	300-0924	C	1 TD START STOP 24V (AT C)
A13	300-0937	B	1 MODULE - BLANK (SPARE) (AT C & D)
A14-18	300-0937	B	5 MODULE - BLANK (SPARE)
A19	300-1133	C	1 PANEL ASSY - SWINGING
F1	321-0801(REF)	P	1 FUSE - 1 AMP 600V
F2	321-0781(REF)	P	1 FUSE - HOLDER
K3	307-1058	B	1 RELAY - INTERPOSING LINE 12V
K4	307-1058	B	1 RELAY - INTERPOSING GEN 12V
K5	307-1058	B	1 RELAY - TIMER 12V
K6	307-1058	B	1 RELAY - OVER VOLTAGE LINE 12V
M1	307-1104	B	1 CLOCK - PLANT EXERCISER 120V 50/60Hz
M2	307-1102	B	1 CLOCK - PLANT EXERCISER 120V 60Hz
P1	323-0906(REF)	A	1 PLUG - LINE DISCONNECT
R1	333-0046(REF)	A	1 RESISTOR - 6 OHM 2.5 OHM TAP 75W
S1	308-0321(REF)	P	1 SWITCH - TEST TRANSFER
S2	308-0322(REF)	P	1 SWITCH - SELECTION
T1	315-0379(REF)	B	1 TRANSFORMER - BAT CHARGER
T2, 3	315-0374(REF)	C	1 TRANSFORMER ASSY - STEPDOWN
TBI	332-1689	A	1 MARKER STRIP
TBI	332-1516	A	1 MARKER STRIP
TBI	332-1469	A	1 MARKER STRIP
TBI	338-0778(REF)	E	1 HARNESS - MAIN
TBI	338-0646	D	1 HARNESS - OVER V
TBI	338-0656	C	1 HARNESS - BAT V
TBI	338-0677	C	1 HARNESS - MOTOR TIMER
TBI	332-1275	-	9 PLUG - KEYING
TBI	323-0814	P	12 GUIDES - PC BOARD
TBI	307-1187	P	2 SPRING - RELAY HOLDDOWN

626-0143





SCHEMATIC DIAGRAM



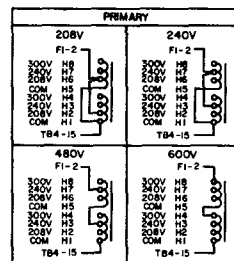
16. TO ADD PARALLELING SWITCH BOARD TRANSFER INHIBIT CIRCUIT, REMOVE JUMPER TBI-6 & 7
17. OVERCRANK SIGNAL ON AT E ONLY. CONNECT TO TERMINAL 53 IN REMOTE ANNUNCIATOR

NOTES:

- ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
- 2 WIRE START ON AT C & D AT D CONNECT TO B+, GND & RMT 3 WIRE START ON AT E CONNECT TO B+, I, 2, & 3
- FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2 BETWEEN T1-X2 & R1-2 (AT D & E) FOR 24V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2 BETWEEN T1-X3 & R1-3 (AT C)
- TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TBI-4 & 5
- REMOVE JUMPER BETWEEN TB4-7 & 9
- TO ADD OVER & UNDER FREQ. SENSING, REMOVE JUMPER BETWEEN TB3-9 & 11
- TO ADD PUSH TO RETRANSFER (MOTOR TIMER) REMOVE JUMPER BETWEEN TB4-5 & 7
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE IS NORMAL (A1, A2, A3, & A4)
- TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
  - WITH LOAD - PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
  - WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER 0.5 SEC TO 15 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
- WIRE TRANSFORMERS T2, 3, 4 & 5 AS FOLLOWS
 

FOR 208V CONNECT	T4-1 TO T2-3	T6-7 TO T3-9	T5-7 TO T4-3	T2-1 TO T5-9
FOR 240V CONNECT	T4-1 TO T2-4 <td>T6-7 TO T3-10 <td>T5-7 TO T4-4 <td>T2-1 TO T5-10 </td></td></td>	T6-7 TO T3-10 <td>T5-7 TO T4-4 <td>T2-1 TO T5-10 </td></td>	T5-7 TO T4-4 <td>T2-1 TO T5-10 </td>	T2-1 TO T5-10
FOR 480V CONNECT	T4-1 TO T2-5 <td>T6-7 TO T3-11 <td>T5-7 TO T4-5 <td>T2-1 TO T5-11 </td></td></td>	T6-7 TO T3-11 <td>T5-7 TO T4-5 <td>T2-1 TO T5-11 </td></td>	T5-7 TO T4-5 <td>T2-1 TO T5-11 </td>	T2-1 TO T5-11
FOR 600V CONNECT	T4-1 TO T2-6 <td>T6-7 TO T3-12 <td>T5-7 TO T4-6 <td>T2-1 TO T5-12 </td></td></td>	T6-7 TO T3-12 <td>T5-7 TO T4-6 <td>T2-1 TO T5-12 </td></td>	T5-7 TO T4-6 <td>T2-1 TO T5-12 </td>	T2-1 TO T5-12

12. WIRE T1 TRANSFORMER AS FOLLOWS:



REF. DES.	PART NO.	QTY	DESCRIPTION
A1,2,3	300-0780	C 3	UNDER VOLTAGE SENSOR (LINE)
A4	300-0780	C 1	UNDER VOLTAGE SENSOR (GEN)
A5	300-0847	B 1	MODULE - VOLTAGE 12V (AT D & E)
A6	300-0848	B 1	MODULE - 24V TO 12V CONVERTER (AT C)
A7	300-0793	C 1	BATTERY CHARGER - 2 AMP 24V (AT C)
A8	300-0921	C 1	TO START - STOP 12V (AT D & E)
A9	300-0922	C 1	TO START - STOP 24V (AT C)
A10	300-0924	C 1	TO TRANSFER 0.5 SEC TO 15 SEC DELAY ON START 0.5 SEC TO 5 MIN DELAY ON STOP
A11	300-0924	C 1	TO TRANSFER 0.5 SEC TO 15 SEC DELAY ON TRANSFER
A12	300-0937	B 1	MODULE - BLANK (SPARE) (AT C & D)
A13	300-0938	C 1	2 TO 3 WIRE CONVERTER (AT E)
A14	300-0796	C 1	BATTERY V SENSOR 12V (AT D & E)
A15	300-0797	C 1	BATTERY V SENSOR 24V (AT C)
A16,17,18	300-0937	B 3	MODULE - BLANK (SPARE)
A19	300-1134	C 1	PANEL ALARM - SWINGING
F1	321-0800REF	P 1	FUSE - 1 AMP 600V
K1	307-1058	B 1	FUSE - HOLDER
K2	307-1058	B 1	RELAY - INTERPOSING LINE 12V
K3	307-1058	B 1	RELAY - INTERPOSING GEN 12V
K4	307-1058	B 1	RELAY - TIMER 12V
K5	307-1058	B 1	RELAY - OVER VOLTAGE LINE 12V
K6	307-1058	B 1	RELAY - OVER VOLTAGE GEN 12V
M1	307-1104	B 1	CLOCK - PLANT EXERCISER 120V 60Hz
M2	307-1102	B 1	CLOCK - PLANT EXERCISER 120V 60Hz
P1	323-0800REF	A 1	PLUG - LINE DISCONNECT
R1	323-0440REF	A 1	RESISTOR - 5 OHM 2 1/2 WATT 75W
S1	308-0322REF	P 1	SWITCH - TEST TRANSFER
S2	308-0322REF	P 1	SWITCH - SELECTOR
T1	315-0379REF	B 1	TRANSFORMER - BAT CHARGER
T2-5	315-0379REF	C 2	TRANSFORMER ASSY - STEPDOWN
TB1	332-1469	A 1	MARKER STRIP
TB2	332-1469	A 1	MARKER STRIP
TB3	332-1469	A 1	MARKER STRIP
TB4	332-1469	A 1	MARKER STRIP
TB5	332-1469	A 1	MARKER STRIP
TB6	332-1469	A 1	MARKER STRIP
TB7	332-1469	A 1	MARKER STRIP
TB8	332-1469	A 1	MARKER STRIP
TB9	332-1469	A 1	MARKER STRIP
TB10	332-1469	A 1	MARKER STRIP
TB11	332-1469	A 1	MARKER STRIP
TB12	332-1469	A 1	MARKER STRIP
TB13	332-1469	A 1	MARKER STRIP
TB14	332-1469	A 1	MARKER STRIP
TB15	332-1469	A 1	MARKER STRIP
TB16	332-1469	A 1	MARKER STRIP
TB17	332-1469	A 1	MARKER STRIP
TB18	332-1469	A 1	MARKER STRIP
TB19	332-1469	A 1	MARKER STRIP
TB20	332-1469	A 1	MARKER STRIP
TB21	332-1469	A 1	MARKER STRIP
TB22	332-1469	A 1	MARKER STRIP
TB23	332-1469	A 1	MARKER STRIP
TB24	332-1469	A 1	MARKER STRIP
TB25	332-1469	A 1	MARKER STRIP
TB26	332-1469	A 1	MARKER STRIP
TB27	332-1469	A 1	MARKER STRIP
TB28	332-1469	A 1	MARKER STRIP
TB29	332-1469	A 1	MARKER STRIP
TB30	332-1469	A 1	MARKER STRIP
TB31	332-1469	A 1	MARKER STRIP
TB32	332-1469	A 1	MARKER STRIP
TB33	332-1469	A 1	MARKER STRIP
TB34	332-1469	A 1	MARKER STRIP
TB35	332-1469	A 1	MARKER STRIP
TB36	332-1469	A 1	MARKER STRIP
TB37	332-1469	A 1	MARKER STRIP
TB38	332-1469	A 1	MARKER STRIP
TB39	332-1469	A 1	MARKER STRIP
TB40	332-1469	A 1	MARKER STRIP
TB41	332-1469	A 1	MARKER STRIP
TB42	332-1469	A 1	MARKER STRIP
TB43	332-1469	A 1	MARKER STRIP
TB44	332-1469	A 1	MARKER STRIP
TB45	332-1469	A 1	MARKER STRIP
TB46	332-1469	A 1	MARKER STRIP
TB47	332-1469	A 1	MARKER STRIP
TB48	332-1469	A 1	MARKER STRIP
TB49	332-1469	A 1	MARKER STRIP
TB50	332-1469	A 1	MARKER STRIP
TB51	332-1469	A 1	MARKER STRIP
TB52	332-1469	A 1	MARKER STRIP
TB53	332-1469	A 1	MARKER STRIP
TB54	332-1469	A 1	MARKER STRIP
TB55	332-1469	A 1	MARKER STRIP
TB56	332-1469	A 1	MARKER STRIP
TB57	332-1469	A 1	MARKER STRIP
TB58	332-1469	A 1	MARKER STRIP
TB59	332-1469	A 1	MARKER STRIP
TB60	332-1469	A 1	MARKER STRIP
TB61	332-1469	A 1	MARKER STRIP
TB62	332-1469	A 1	MARKER STRIP
TB63	332-1469	A 1	MARKER STRIP
TB64	332-1469	A 1	MARKER STRIP
TB65	332-1469	A 1	MARKER STRIP
TB66	332-1469	A 1	MARKER STRIP
TB67	332-1469	A 1	MARKER STRIP
TB68	332-1469	A 1	MARKER STRIP
TB69	332-1469	A 1	MARKER STRIP
TB70	332-1469	A 1	MARKER STRIP
TB71	332-1469	A 1	MARKER STRIP
TB72	332-1469	A 1	MARKER STRIP
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TB82	332-1469	A 1	MARKER STRIP
TB83	332-1469	A 1	MARKER STRIP
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TB94	332-1469	A 1	MARKER STRIP
TB95	332-1469	A 1	MARKER STRIP
TB96	332-1469	A 1	MARKER STRIP
TB97	332-1469	A 1	MARKER STRIP
TB98	332-1469	A 1	MARKER STRIP
TB99	332-1469	A 1	MARKER STRIP
TB100	332-1469	A 1	MARKER STRIP

- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE GOES ABOVE NORMAL (A15, A14 & A15)
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES AFTER A DELAY OF 0.5 SEC TO 10 SEC DELAY ON LOAD TRANSFER
- 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY) THE SELECTOR SWITCH HAS THREE POSITIONS:
  - STOP - SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.
  - NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.
  - HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.

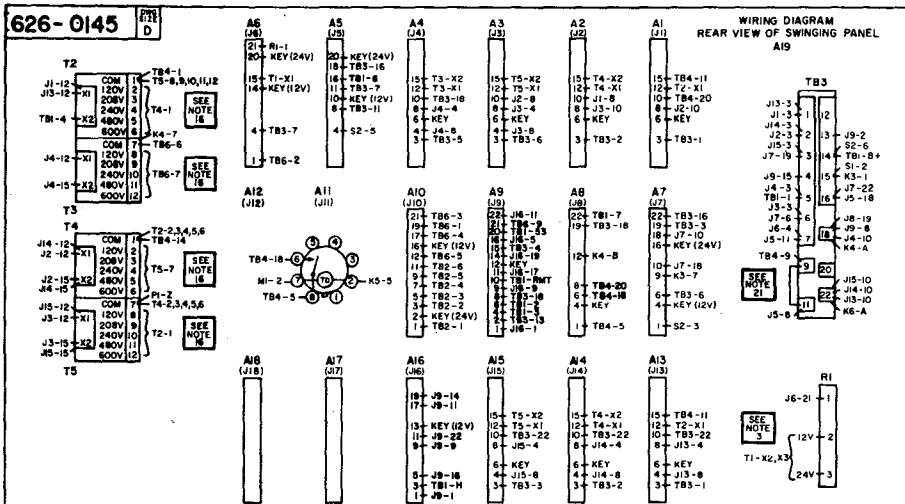
CONTROL ACCESSORY GROUP 14

- BATTERY CHARGER MODULE
- 3 UNDER VOLTAGE SENSOR MODULES (LINE)
  - 1 UNDER VOLTAGE SENSOR MODULE (GEN)
  - NORMAL - TEST SWITCH
  - WITH LOAD - WITHOUT LOAD SWITCH
  - 2 TO 3 CONVERTER (AT E ONLY)
  - EXERCISER CLOCK
  - TO START - STOP
  - TO TRANSFER
  - BATTERY VOLTAGE SENSOR
  - 3 OVER VOLTAGE SENSOR MODULES (LINE)
  - TO RETRANSFER (MOTOR)

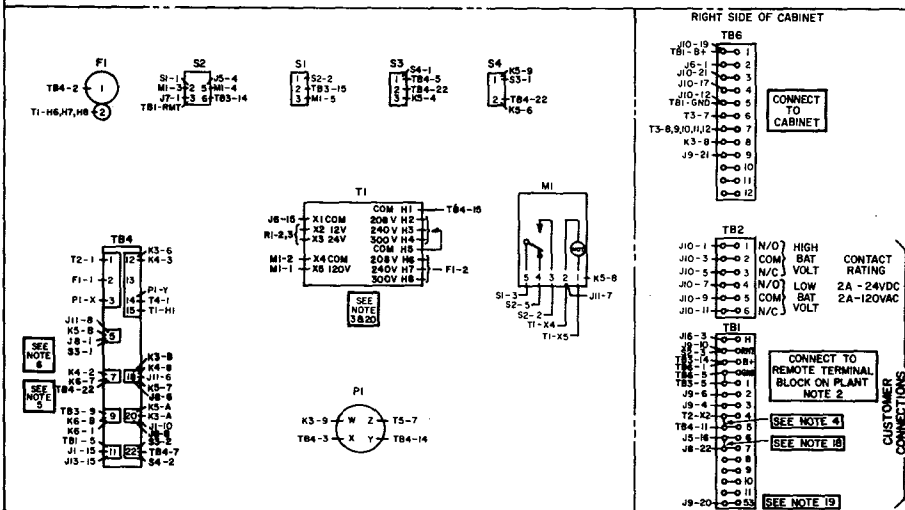
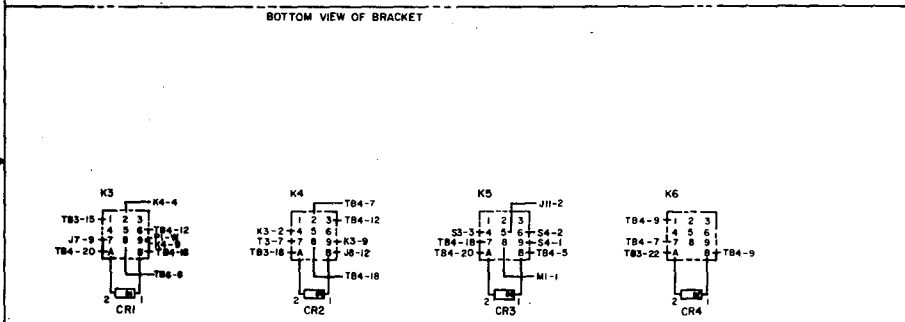
THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

MODEL	60 Hz	50 Hz
AT C	-01	-04
AT D	-02	-05
AT E	-03	-06

REV. 1	DATE 4-13-74	BY CDR WJB
DIVISION OF ORAL COMPOSITION		
CONTROL ACCESS. PANEL (WIRING DIAGRAM)		
208, 240, 480, 600V., 3PH., 4W., 50/60Hz		
626-0144		



**BOTTOM VIEW OF BRACKET**



2. WIRE START ON AT C 6, AT D CONNECT TO B+GN8 RMT
  3. WIRE START ON AT E CONNECT TO B+1,2,3 (PLUS H ON DIESELS)
  4. FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 RI-2,3 BETWEEN T1-X2 & RI-2 (AT C & E) FOR 24V BATTERY WIRE MARKED T1-X2, X3 RI-2,3 BETWEEN T1-X3 & RI-3 (AT C)
  5. TO ADD AREA PROTECTION EQUIPMENT OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TB1-4 & 5
  6. REMOVE JUMPER BETWEEN TB4-7 & 9
  7. REMOVE JUMPER BETWEEN TB4-5 & 7
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSES WHEN

- WIRE TIE TRANSFORMER AS FOLLOWS:
- | PRIMARY   |   |
|---|---|
| <p><b>20BV</b><br/>           Fi-2<br/>           300V H8<br/>           200V H7<br/>           208V H6<br/>           COM H5<br/>           300V H4<br/>           240V H3<br/>           208V H2<br/>           COM H1</p> <p>TB4-1.5</p> | <p><b>240V</b><br/>           Fi-2<br/>           300V H8<br/>           200V H7<br/>           208V H6<br/>           COM H5<br/>           300V H4<br/>           240V H3<br/>           208V H2<br/>           COM H1</p> <p>TB4-1.5</p> |
| <p><b>480V</b><br/>           Fi-2<br/>           300V H8<br/>           240V H7<br/>           208V H6<br/>           COM H5<br/>           300V H4<br/>           240V H3<br/>           208V H2<br/>           COM H1</p> <p>TB4-1.5</p> | <p><b>600V</b><br/>           Fi-2<br/>           300V H8<br/>           240V H7<br/>           208V H6<br/>           COM H5<br/>           300V H4<br/>           240V H3<br/>           208V H2<br/>           COM H1</p> <p>TB4-1.5</p> |

21. TO ADD OVER & UNDER FREQ  
SENSING, REMOVE JUMPER  
BETWEEN TB3-9 & 11

**STANDARD**

- 1 UNDER VOLTAGE SENSOR (LINE)
- 1 UNDER VOLTAGE SENSOR (GEN)
- 2 TO 3 WIRE CONVERTER (AT E ONLY)

**NORMAL - TEST SWITCH**

- WITH LOAD - WITHOUT LOAD SW
- MANUAL PUSHTO RETRANSFER

■ **PLUG-IN-MODULE PACKAGE'S**

- BATTERY CHARGER MODULE
- 2 UNDER VOLT SENSOR(LINE)
- 3 OVER VOLT SENSORS(LINE)
- TD START STOP
- TD RETRANSFER (MOTOR)
- TD TRANSFER
- TD PREHEAT

**BATTERY VOLTAGE SENSORS**

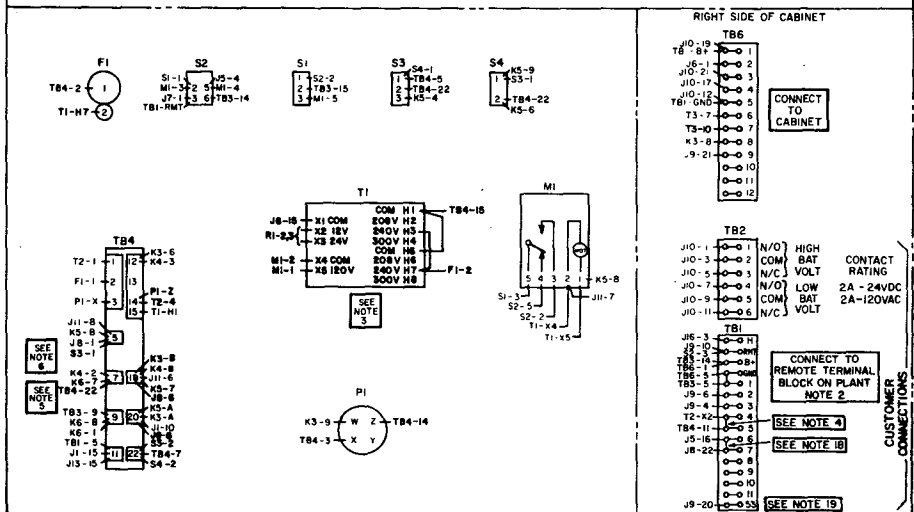
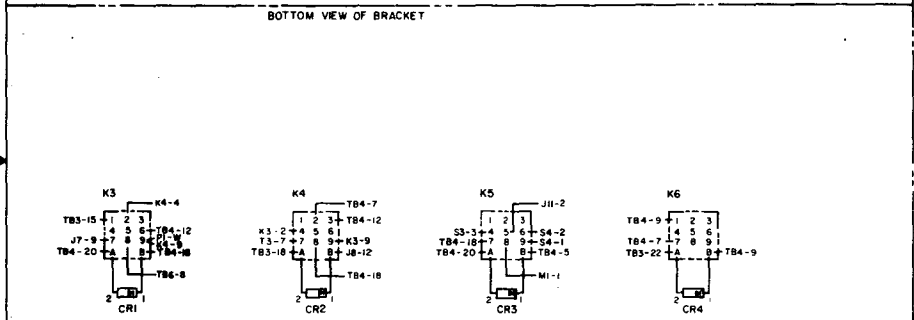
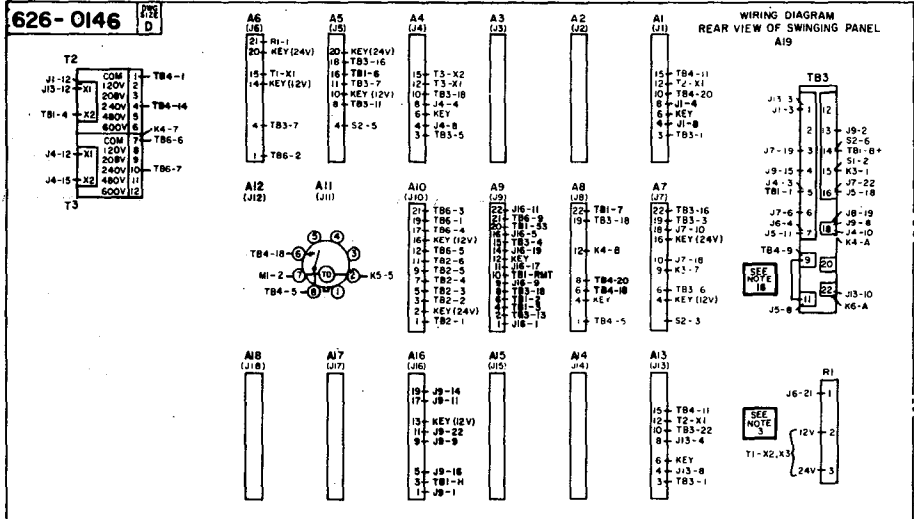
■ **WIRE-IN-PACKAGE'S**

- EXERCISER CLOCK

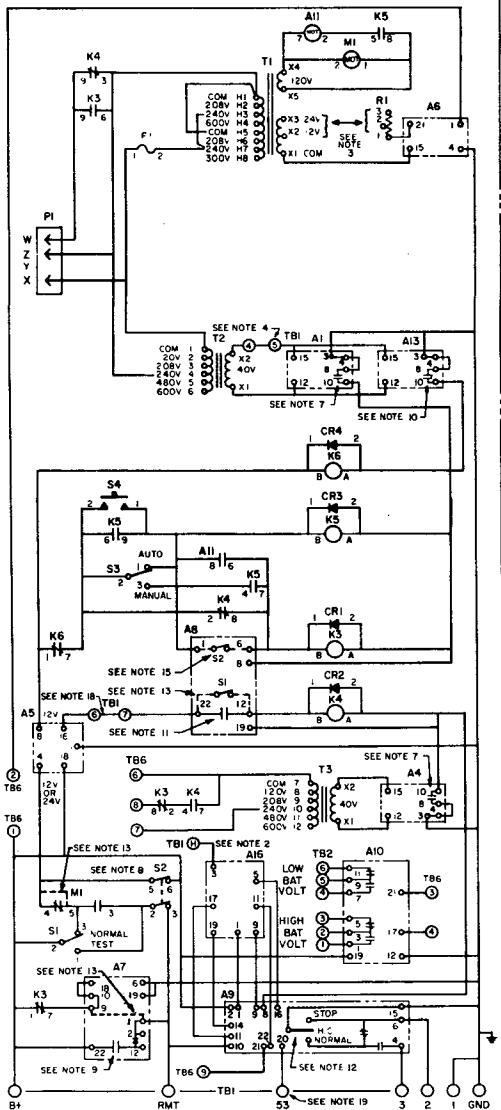
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626-0146

D



# SCHEMATIC DIAGRAM



- NOTES:
1. ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
  2. WIRE START ON AT C & AT D CONNECT TO B+ GND & RMT
  3. WIRE START ON AT E CONNECT TO B+, 1, 2 & 3 (PLUS HON DIESELS)
  4. FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2, 3 BETWEEN T1-X2 & R1-2 (AT DBE) FOR 24V BATTERY CONNECT WIRE MARKED T1-X2, X3 R1-2, 3 BETWEEN T1-X3 & R1-3 (AT C)
  5. TO ADD AREA PROTECTION EQUIPMENT OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TBI-4 & 5
  6. REMOVE JUMPER BETWEEN TBI-7 & 9
  7. REMOVE JUMPER BETWEEN TBI-5 & 7
  8. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSING WHEN VOLTAGE IS NORMAL (A1, A2, A3, & A4)

8. TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
- 8.1. WITH LOAD - PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
- 8.2. WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
9. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSING AFTER A 0.5 SEC TO 10 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
10. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSING WHEN VOLTAGE GOES ABOVE NORMAL (A1, A2 & A3)
11. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSING AFTER A DELAY OF 0.5 SEC TO 10 SEC DELAY ON LOAD TRANSFER
12. 2 TO 3 WIRE CONVERTER (AT E ONLY) THE SELECTOR SW HAS THREE POSITIONS: STOP - - - - - STOPS PLANT. PREVENTS STARTING. USE THIS POSITION FOR SERVICING PLANT. NORMAL - - - - - ALLOWS PLANT TO START. ASSUMES LOAD IF A LINE FAILURE OCCURS. HAND CRANK - PREVENTS AUTOMATIC START. ALLOWS STARTING & STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.
13. THIS DASHED LINE REPRESENTS A JUMPER CIRCUIT THAT MUST BYPASS A CONTACT OR CLOSE A CIRCUIT TO OPERATE WITHOUT THE REFERENCED MODULE
14. S2 IS SET IN "ON" POSITION AT FACTORY. WHEN ADDING TO RETRANSFER (MOTOR) TIMER SET S2 TO OFF POSITION
15. WHEN ADDING TO TRANSFER WITHOUT A TO RETRANSFER (MOTOR) TIMER ADD WIRE JUMPER BETWEEN TERMINAL 1 & 6 ON THE TO TRANSFER BOARD
16. TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TBI-9 & 11.
17. WIRING DIAGRAM SHOWS CIRCUIT AS IF ALL ADDER PACKAGES WERE INSTALLED, PLUS IT SHOWS JUMPERS REQUIRED WHEN THEY ARE NOT INSTALLED
18. TO ADD PARALLELING SWITCH BOARD TRANSFER INHIBIT CIRCUIT, REMOVE JUMPER TBI-6 & 7
19. OVERCRANK SIGNAL ON AT E ONLY. CONNECT TO TERMINAL 53 IN REMOTE ANNUNCIATOR

REF DES	PART NO	QTY	DESCRIPTION
A1	300-0780	C	UNDER VOLTAGE SENSOR (LINE)
A2,3	300-0937	B	MODULE-BLANK (SPARE)
A4	300-0780	C	UNDER VOLTAGE SENSOR (GEN)
A5	300-0847	B	MODULE-VOLTAGE 12V (AT D & E)
A6	300-0848	B	MODULE-24V TO 12V CONVERTER (AT C)
A7	300-0937	B	MODULE-BLANK (SPARE)
A8	300-0794	C	BATTERY CHARGER - 2 AMP (AT D & E)
A9	300-1177	B	BYPASS PLUG - START STOP
A10	300-0921	C	SET SI ON & S2 OFF
A11	300-0922	C	TD START - STOP 12V (AT D & E)
A12	300-0922	C	TD START - STOP 24V (AT C)
A13	300-0927	B	0.5 SEC TO 10 SEC DELAY ON START
A14	300-0927	B	0.5 SEC TO 5 MIN DELAY ON STOP
A15	300-0924	C	BYPASS PLUG - TRANSFER
A16	300-0924	C	SET SI ON & S2 (SEE NOTE 14)
A17	300-0924	C	0.5 SEC TO 10 SEC DELAY
A18	300-0937	B	MODULE-BLANK (SPARE) (AT C & D)
A19	300-0926	C	2 TO 3 WIRE CONVERTER (AT E)
A20	300-0937	B	MODULE-BLANK (SPARE)
A21	300-0796	C	BATTERY VOLTAGE SENSOR (AT D & E)
A22	300-0791	C	BATTERY VOLTAGE SENSOR (AT C)
A23	300-0837	B	MODULE-BLANK (SPARE)
A24	307-1193	B	ASSY-RETRANSFER 120V 50/60Hz
A25	300-0937	B	MODULE-BLANK (SPARE)
A26	300-0937	B	MODULE-BLANK (SPARE)
A27	300-0937	B	MODULE-BLANK (SPARE)
A28	300-1072	C	MODULE - TD PREHEAT
A29	300-0937	B	MODULE - BLANK (SPARE)
A30	300-1133	C	PANEL ASSY-SWINGING
A31	321-0180	P	FUSE - 1AMP 600V
A32	321-0179	P	FUSE - HOLDER
A33	307-1058	B	RELAY-INTERPOSING LINE 12V
A34	307-1058	B	RELAY-INTERPOSING GEN 12V
A35	307-1058	B	RELAY-TIME & RETRANSFER 12V
A36	307-1058	B	RELAY-OVER VOLTAGE LINE 12V
A37	301-3487	A	PLATE-CLOCK COVER
A38	307-1104	B	CLOCK-PLANT EXERCISER 120V 50Hz
A39	307-1102	B	CLOCK-PLANT EXERCISER 120V 50Hz
A40	323-0901	A	PLUG-LINE DISCONNECT
A41	353-0046	A	RESISTOR-60HM 2.50HM TAP 75W
A42	308-0321	P	SWITCH-TEST TRANSFER
A43	308-0322	P	SWITCH-SELECTOR
A44	308-0321	P	SWITCH-MANUAL & AUTO
A45	308-0175	A	SWITCH-RETRANSFER
T1	315-0379	B	TRANSFORMER - BATTERY CHARGER
T2,3	315-0374	C	TRANSFORMER ASSY-STEPPDOWN
TBI	332-1699	A	MARKER STRIP
YB2	332-1516	A	MARKER STRIP
TB6	332-1469	A	MARKER STRIP
B1	338-0770	E	HARNES - MAIN
B2	338-0664	C	HARNES - RETRANSFER
B3	338-0668	D	HARNES - OVER V
B4	338-0658	C	HARNES - BAT V
B5	338-0677	C	HARNES - MOTOR TIMER
B6	338-0770	C	HARNES - TD PREHEAT
B7	332-1279	-	PLUG-KEYING
B8	323-0814	P	GUIDES-PC BOARD
B9	307-1157	P	SPRING-RELAY HOLD-DOWN

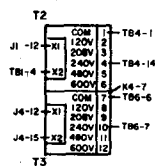
## CONTROL ACCESSORY GROUP 15

- STANDARD
- 1 UNDER VOLTAGE SENSOR (LINE)
  - 1 UNDER VOLTAGE SENSOR (GEN)
  - 2 TO 3 WIRE CONVERTER (AT E ONLY)
  - NORMAL-TEST SWITCH
  - WITH LOAD - WITHOUT LOAD SW
  - MANUAL PUSH TO RETRANSFER
  - PLUG-IN-MODULE PACKAGES
  - BATTERY CHARGER MODULE
  - 2 UNDER VOLT SENSOR (LINE)
  - 1 OVER VOLTAGE SENSOR (LINE)
  - TD RETRANSFER (MOTOR)
  - TD TRANSFER
  - TD PREHEAT
  - BATTERY VOLTAGE SENSORS
  - WIRE-IN-PACKAGE'S EXERCISER CLOCK

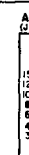
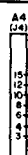
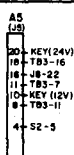
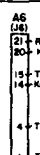
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REV	DATE	BY	CHKD	DATE
01	4-25-74	RMS		
02				
03				
CONTROL ACCESS. PANEL (WIRING DIAGRAM)				
208, 240, 480, 600V, 1PH., 50/60Hz		626-0146		

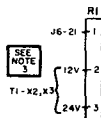
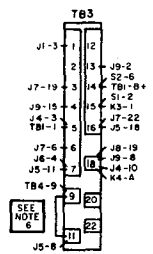
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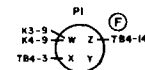
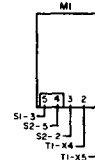
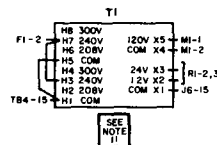
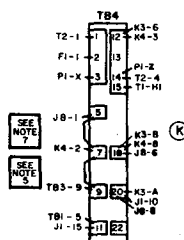
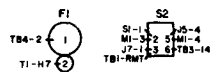
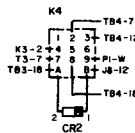
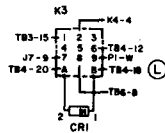
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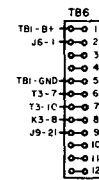
WIRING DIAGRAM  
REAR VIEW OF SWINGING PANEL  
A19



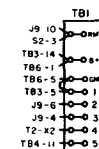
BOTTOM VIEW OF BRACKET



RIGHT SIDE OF CABINET



CONNECT TO CABINET

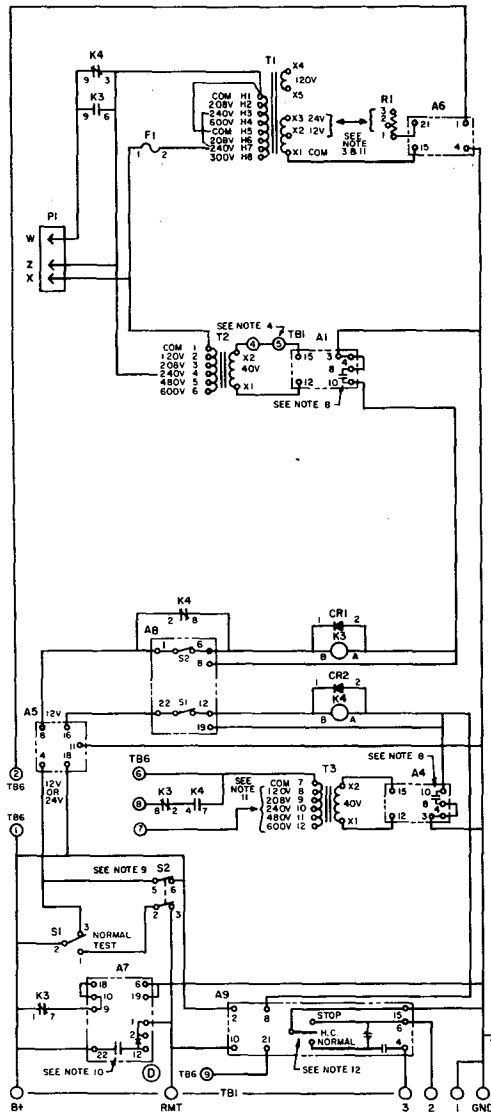


CONNECT TO REMOTE TERMINAL BLOCK ON PLANT NOTE 2

SEE NOTE 4

CUSTOMER CONNECTIONS

SCHEMATIC DIAGRAM



NOTES:

- ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
- WIRE START ON AT C & B AT D CONNECT TO B+, GND & RMT
- WIRE START ON AT E CONNECT TO B+, GND & RMT
- FOR 12V BATTERY CHARGE WIRE MARKED T1-X2, X3 RI-2,3 TO RI-2 FOR 24V BATTERY CHARGE WIRE MARKED T1-X2, X3 RI-2,3 TO RI-3
- TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TB1-4 & 5
- TO ADD OVER-VOLTAGE SENSING, REMOVE JUMPER BETWEEN TB4-7 & 9
- TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TB3-9 & 10
- TO ADD PUSH TO RETRANSFER (MOTOR TIMER) REMOVE JUMPER BETWEEN TB4-5 & 7
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE IS NORMAL (A1 & A4)
- TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
  - WITH LOAD- PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
  - WITHOUT LOAD- PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER 0.5 SEC TO 10 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
- FOR 12V BATTERY CHARGE CONNECT RI-2,3 TO T1-X2 (AT D & E) FOR 24V BATTERY CHARGE CONNECT RI-2,3 TO T1-X3 (AT C)
- 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY) THE SELECTOR SWITCH HAS THREE POSITIONS:
  - STOP-----SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.
  - NORMAL-----ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.
  - HAND CRANK-----PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.

REF DES	PART NO	QTY	DESCRIPTION
A1	300-0780	C	UNDER VOLTAGE SENSOR (LINE)
A2,3	300-0937	B	MODULE-BLANK (SPARE)
A4	300-0780	C	UNDER VOLTAGE SENSOR (GEN)
A5	300-0047	B	MODULE-VOLTAGE 12V (AT D & E)
A6	300-0840	B	MODULE-24V TO 12V CONVERTER (AT C)
A7	300-0793	C	BATTERY CHARGER-2 AMP (AT D & E)
A8	300-0794	C	BATTERY CHARGER-2 AMP (AT C)
A9	300-0921	C	TO START STOP 12V (AT D & E)
A10,11,12	300-0922	C	TO START STOP 24V (AT C)
A13	300-0927	B	0.5 SEC TO 10 SEC DELAY ON START
A14	300-0927	B	0.5 SEC TO 5 MIN DELAY ON STOP
A15	300-0937	B	BYPASS PLUG-TRANSFER SET S1 ON & S2 ON
A16	300-0937	B	MODULE-BLANK (SPARE) (AT C & D)
A17	300-0937	B	MODULE-BLANK (SPARE) (AT E)
A18	300-0937	B	MODULE-BLANK (SPARE)
A19	300-0930	C	PANEL ASSY-SWINGING
F1	321-0180(REF)	P	FUSE-1 AMP 600V
F2	321-0180(REF)	P	FUSE-1 AMP 600V
K3	307-1055	B	RELAY-INTERPOSING LINE 12V
K4	307-1058	B	RELAY-INTERPOSING GEN 12V
M1	332-1484	A	PLATE-CLOCK COVER
P1	323-0185(REF)	P	PLUG-LINE DISCONNECT
R1	333-0046(REF)	A	RESISTOR-6 OHM 2.5 OHM TAP 75W
S1	308-0322(REF)	P	SWITCH-TEST TRANSFER
S2	308-0322(REF)	P	SWITCH-SELECTOR
T1	315-0370(REF)	B	TRANSFORMER-BAT CHARGER
T2,3	315-0374(REF)	C	LEAD ASSY
T4	315-0374(REF)	C	TRANSFORMER ASSY-STEPPDOWN
T5	332-1515	A	MARKER STRIP
T6	332-1469	A	MARKER STRIP
T7	338-0736(REF)	E	HARNES-MAIN
T8	332-1279	-	PLUG-KEYING
T9	323-0814	P	GUIDES-PC BOARD
T10	301-3593	B	COVER-RACK

CONTROL ACCESSORY GROUP-11  
 BATTERY CHARGE MODULE  
 1 UNDER VOLTAGE SENSOR MODULES (LINE)  
 1 UNDER VOLTAGE SENSOR MODULE (GEN)  
 NORMAL-TEST SWITCH  
 WITH LOAD-WITHOUT LOAD SWITCH  
 2 TO 3 CONVERTER (AT E ONLY)  
 TO START-STOP

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY
MODEL 50/60Hz
AT C -01
AT D -02
AT E -03

1 REM K4-B TO K3-B	HIGH
2 REM K3-B	LOW
3 REM K3-B	LOW
4 REM K3-B	LOW
5 REM K3-B	LOW
6 REM K3-B	LOW
7 REM K3-B	LOW
8 REM K3-B	LOW
9 REM K3-B	LOW
10 REM K3-B	LOW
11 REM K3-B	LOW
12 REM K3-B	LOW
13 REM K3-B	LOW
14 REM K3-B	LOW
15 REM K3-B	LOW
16 REM K3-B	LOW
17 REM K3-B	LOW
18 REM K3-B	LOW
19 REM K3-B	LOW
20 REM K3-B	LOW
21 REM K3-B	LOW
22 REM K3-B	LOW
23 REM K3-B	LOW
24 REM K3-B	LOW
25 REM K3-B	LOW
26 REM K3-B	LOW
27 REM K3-B	LOW
28 REM K3-B	LOW
29 REM K3-B	LOW
30 REM K3-B	LOW
31 REM K3-B	LOW
32 REM K3-B	LOW
33 REM K3-B	LOW
34 REM K3-B	LOW
35 REM K3-B	LOW
36 REM K3-B	LOW
37 REM K3-B	LOW
38 REM K3-B	LOW
39 REM K3-B	LOW
40 REM K3-B	LOW
41 REM K3-B	LOW
42 REM K3-B	LOW
43 REM K3-B	LOW
44 REM K3-B	LOW
45 REM K3-B	LOW
46 REM K3-B	LOW
47 REM K3-B	LOW
48 REM K3-B	LOW
49 REM K3-B	LOW
50 REM K3-B	LOW

626-0037

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

MODEL 50/60Hz

AT C -01

AT D -02

AT E -03

1 REM K4-B TO K3-B

2 REM K3-B

3 REM K3-B

4 REM K3-B

5 REM K3-B

6 REM K3-B

7 REM K3-B

8 REM K3-B

9 REM K3-B

10 REM K3-B

11 REM K3-B

12 REM K3-B

13 REM K3-B

14 REM K3-B

15 REM K3-B

16 REM K3-B

17 REM K3-B

18 REM K3-B

19 REM K3-B

20 REM K3-B

21 REM K3-B

22 REM K3-B

23 REM K3-B

24 REM K3-B

25 REM K3-B

26 REM K3-B

27 REM K3-B

28 REM K3-B

29 REM K3-B

30 REM K3-B

31 REM K3-B

32 REM K3-B

33 REM K3-B

34 REM K3-B

35 REM K3-B

36 REM K3-B

37 REM K3-B

38 REM K3-B

39 REM K3-B

40 REM K3-B

41 REM K3-B

42 REM K3-B

43 REM K3-B

44 REM K3-B

45 REM K3-B

46 REM K3-B

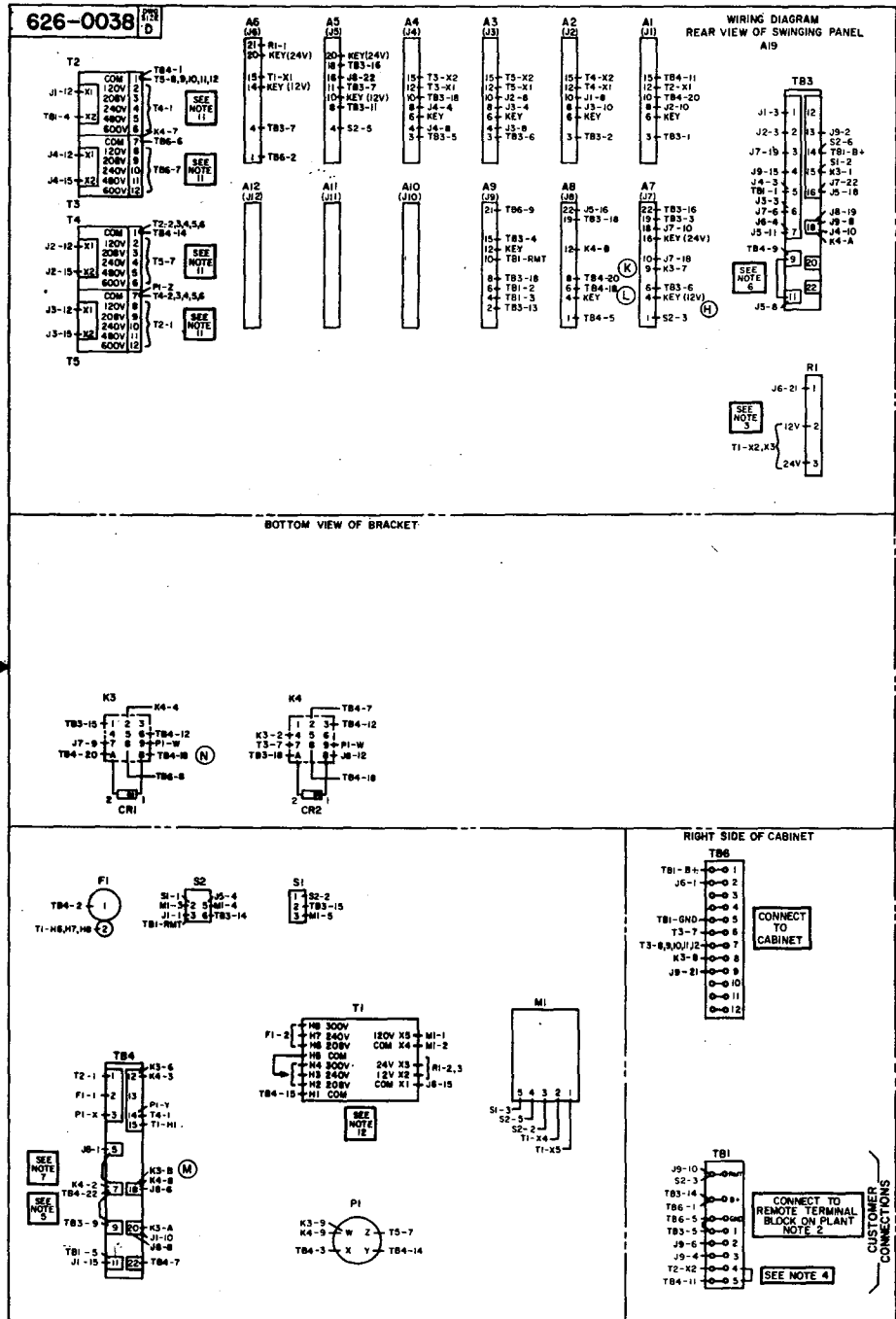
47 REM K3-B

48 REM K3-B

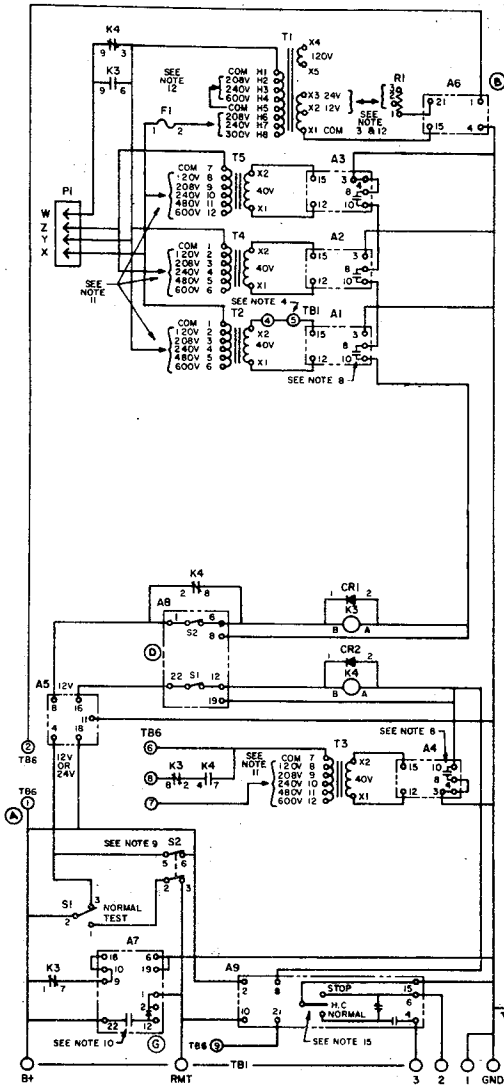
49 REM K3-B

50 REM K3-B



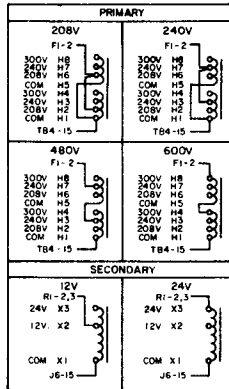


# SCHEMATIC DIAGRAM



- NOTES:
1. ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
  2. WIRE START ON AT C & AT D CONNECT TO B+ GND & RMT
  3. WIRE START ON AT E CONNECT TO B+, I, 2, 3 12V CHARGING ON AT D & ATSE 24V CHARGING ON AT C
  4. TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TB1-4 & 5
  5. TO ADD OVER-VOLTAGE SENSING, REMOVE JUMPER BETWEEN TB4-7 & 9
  6. TO ADD OVER & UNDER FREQ. SENSING, REMOVE JUMPER BETWEEN TB3-9 & 10
  7. TO ADD PUSH TO RETRANSFER (MOTOR TIMER) REMOVE JUMPER BETWEEN TB4-5 & 7
  8. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE IS NORMAL (A1, A2, A3, & A4)
  9. TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
    - 9.1. WITH LOAD - PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
    - 9.2. WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
  10. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER 0.5 SEC TO 15 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
  11. WIRE TRANSFORMERS T2, 3, 4 & 5 AS FOLLOWS
 

FOR 208V CONNECT	T4-1 TO T2-3
	TB6-7 TO T3-9
	T5-7 TO T4-3
	T2-1 TO T5-9
FOR 240V CONNECT	T4-1 TO T2-4
	TB6-7 TO T3-10
	T5-7 TO T4-4
	T2-1 TO T5-10
FOR 480V CONNECT	T4-1 TO T2-5
	TB6-7 TO T3-11
	T5-7 TO T4-5
	T2-1 TO T5-11
FOR 600V CONNECT	T4-1 TO T2-6
	TB6-7 TO T3-12
	T5-7 TO T4-6
	T2-1 TO T5-12
  12. WIRE T1 TRANSFORMER AS FOLLOWS:



12V CHARGING ON ATSD & E  
24V CHARGING ON ATSC

REF DES	PART NO	QTY	DESCRIPTION
A1, 2, 3	300-0780	C 3	UNDER VOLTAGE SENSOR (LINE)
A4	300-0780	C 1	UNDER VOLTAGE SENSOR (GEN)
A5	300-0847	B 1	MODULE - 24V TO 12V CONVERTER (AT C)
A6	300-0848	B 1	MODULE - 24V TO 12V CONVERTER (AT D)
A7	300-0793	C 1	BATTERY CHARGER - 2 AMP 12V (AT D & E)
A7	300-0794	C 1	BATTERY CHARGER - 2 AMP 24V (AT C)
A7	300-0921	C 1	TD START-STOP 12V (AT D & E)
A7	300-0922	C 1	TD START-STOP 24V (AT C)
A8	300-0927	B 1	0.5 SEC TO 15 SEC DELAY ON START 0.5 SEC TO 5 MIN DELAY ON STOP BYPASS PLUG - TRANSFER SET S1 ON B S2 ON
A9	300-0937	B 1	MODULE-BLANK (SPARE) (AT C & D)
A10	300-0926	C 1	2 TO 3 WIRE CONVERTER (AT E)
A10	300-0937	B 1	MODULE-BLANK (SPARE)
A11, 12	300-0937	B 2	MODULE - BLANK (SPARE)
A19	300-0928	C 1	PANEL ASSY-SWINGING
F1	321-0180REF	P 1	FUSE - 1 AMP 600V
R1	321-0178REF	P 1	FUSE - HOLDER
K3	307-1058	B 1	RELAY - INTERPOSING LINE 12V
K4	307-1058	B 1	RELAY - INTERPOSING GEN 12V
M1	332-1484	A 1	PLATE - CLOCK COVER
P1	323-0185REF	P 1	PLUG-LINE DISCONNECT
R1	333-0046REF	P 1	RESISTOR-6 OHM 2.5 OHM TAP 75W
S1	308-0321REF	P 1	SWITCH-TEST TRANSFER
S2	308-0322REF	P 1	SWITCH-SELECTOR
T1	315-0379REF	B 1	TRANSFORMER-BAT CHARGER
T2-5	315-0374REF	C 2	LEAD ASSY (USE ON 208V & 240V ONLY)
TB1	332-1515	A 1	TRANSFORMER ASSY-STOPDOWN
TB6	332-1469	A 1	MARKER STRIP
	338-0655REF	E 1	MARKER STRIP
			HARNES-MAIN
	332-1279	- 9	PLUG-KEYING
	301-3593	B 1	COVER-RACK
	332-0050	- 1	CLIP-WIRE

15. 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY)  
THE SELECTOR SWITCH HAS THREE POSITIONS:  
STOP - SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.  
NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.  
HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.

CONTROL ACCESSORY GROUP: II  
BATTERY CHARGER MODULE  
3 UNDER VOLTAGE SENSOR MODULES (LINE)  
1 UNDER VOLTAGE SENSOR MODULE (GEN)  
NORMAL - TEST SWITCH  
WITH LOAD - WITHOUT LOAD SWITCH  
2 TO 3 CONVERTER (AT E ONLY)  
TD START-STOP

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY  
MODEL 50/60Hz  
AT C - 01  
AT D - 02  
AT E - 03

N	REMOVED K4-B TO K3-B	1	1
M	ADDED K3-B-TB4-18	1	1
L	WAS K2-B	1	1
K	WAS K3-A	1	1
J	WAS 301-3487	1	1
I	REMOVED J7 TO J2	1	1
H	REMOVED JUMPER ADD DIODE	1	1
G	REMOVED JUMPER	1	1
F	REMOVED JUMPER	1	1
E	REMOVED JUMPER	1	1
D	ADDED S1 & S2	1	1
C	WAS S2 OFF	1	1
B	REMOVED S1 & S2	1	1
A	ADDED TB4-1 TO TB4-18	1	1

626-0038

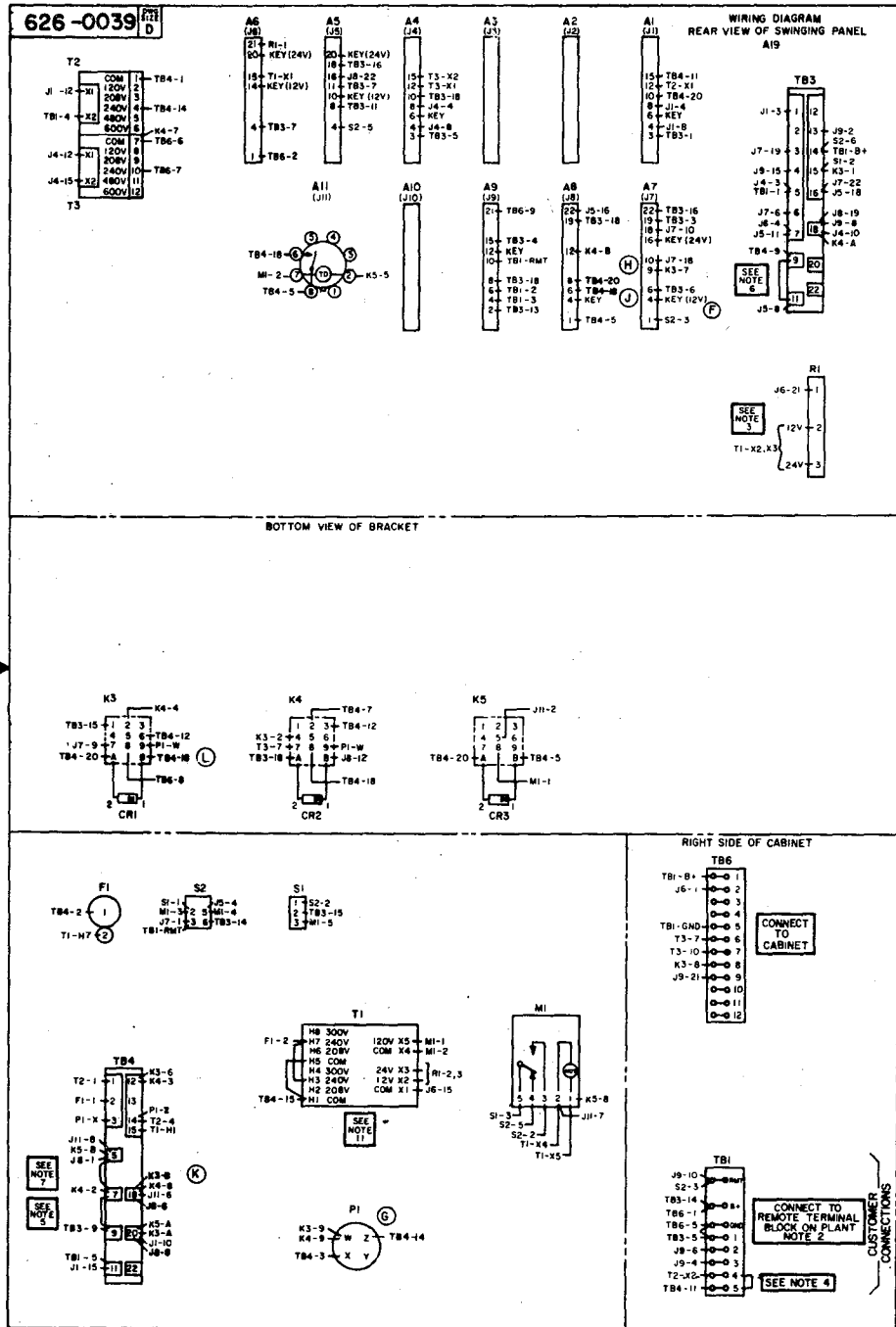
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CONTROL ACCESS PANEL (WIRING DIAGRAM)

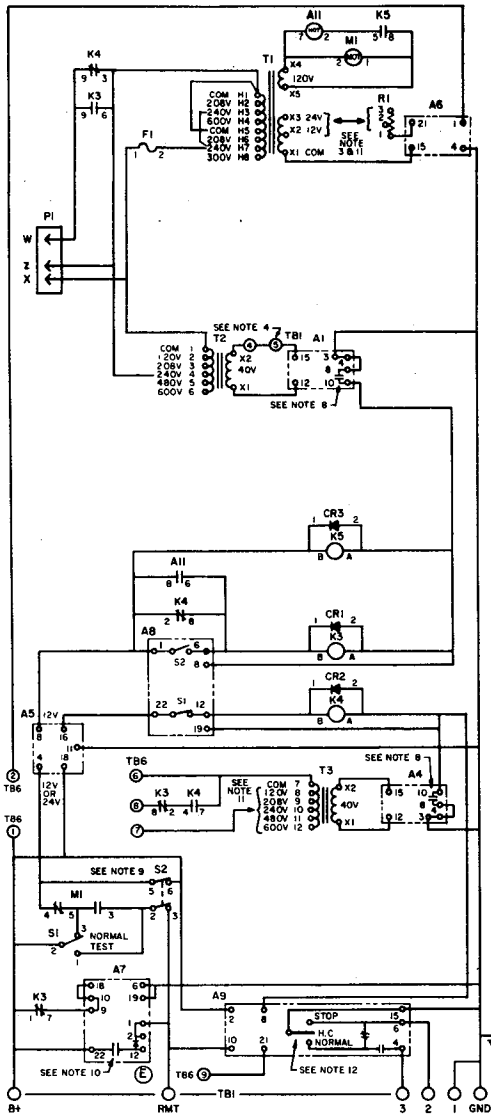
208, 240, 480, 600V, 3PH, 4W, 50/60Hz

626-0038

626-0039



# SCHEMATIC DIAGRAM



## NOTES

- ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
- WIRE START ON AT C & AT D CONNECT TO B+, GND & RMT 3 WIRE START ON AT E CONNECT TO B+, 1, 2, & 3 12V CHARGING ON AT D & AT E 24V CHARGING ON AT C
- FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 RI-2,3 TO RI-2 FOR 24V BATTERY CONNECT WIRE MARKED T1-X2, X3 RI-2,3 TO RI-3
- TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TB4-4 & 5
- TO ADD OVER-VOLTAGE SENSING, REMOVE JUMPER BETWEEN TB4-7 & 9
- TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TB3-9 & 10
- TO ADD PUSH TO RETRANSFER (MOTOR TIMER) REMOVE JUMPER BETWEEN TB4-5 & 7
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE IS NORMAL (A1 & A4)
- TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION) TAKES OVER LOAD PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS 9.2 WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER 0.5 SEC TO 10 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
- FOR 12V BATTERY CHARGING CONNECT RI-2,3 TO T1-X2 (AT D & E) FOR 24V BATTERY CHARGING CONNECT RI-2,3 TO T1-X3 (AT C)
- 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY) THE SELECTOR SWITCH HAS THREE POSITIONS:  
 SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.  
 NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.  
 HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.

REF DES	PART NO	QTY	DESCRIPTION
A1	300-0780	C	UNDER VOLTAGE SENSOR (LINE)
A2,3	300-0937	B	MODULE-BLANK (SPARE)
A4	300-0780	C	UNDER VOLTAGE SENSOR (GEN)
A5	300-0847	B	MODULE-VOLTAGE 12V (AT D & E)
A6	300-0848	B	MODULE-24V TO 12V CONVERTER (AT C)
A7	300-0793	C	BATTERY CHARGER-2 AMP (AT D & E)
A8	300-0794	C	BATTERY CHARGER-2 AMP (AT C)
A9	300-0921	C	TO START STOP 12V (AT D & E)
A10	300-0922	C	TO START STOP 24V (AT C)
A11	307-1199	B	0.5 SEC TO 10 SEC DELAY ON START 0.5 SEC TO 5 MIN DELAY ON STOP BYPASS PLUG-TRANSFER SET SI ON & S2 OFF
A12	300-0937	B	MODULE-BLANK (SPARE) (AT C & D)
A13	300-0926	C	2 TO 3 WIRE CONVERTER (AT E)
A14	300-0937	B	MODULE-BLANK (SPARE)
A15	307-1199	B	ASSY-RETRANSFER 120V 50/60Hz
A16	300-0930	C	PANEL ASSY-SWINGING
F1	321-0180(REF)	P	FUSE-1 AMP 600V
K3	321-0180(REF)	P	FUSE-HOLDER
K4	307-1059	B	RELAY-INTERPOSING LINE 12V
K5	307-1058	B	RELAY-INTERPOSING GEN 12V
K6	307-1058	B	RELAY-TIMER 12V
M1	307-1104	B	CLOCK-PLANT EXERCISER 120V 50Hz
P1	307-1102	B	CLOCK-PLANT EXERCISER 120V 60Hz
R1	323-086(REF)	P	PLUG-LINE DISCONNECT
S1	353-0046(REF)	A	RESISTOR-6 OHM 2.5 OHM TAP 75W
S2	308-0321(REF)	P	SWITCH-TEST TRANSFER
S3	308-0322(REF)	P	SWITCH-SELECTOR
T1	315-0279(REF)	B	TRANSFORMER-BAT CHARGER
T2,3	336-2161	A	LEAD ASSY
T4	315-0374(REF)	C	TRANSFORMER ASSY-STEPPDOWN
T5	332-1515	A	MARKER STRIP
T6	332-1469	A	MARKER STRIP
T7	338-0736(REF)	E	HARNES-MAIN
T8	358-0677	C	HARNES-MOTOR TIMER
T9	332-1279	-	7 PLUG-KEYING
T10	301-3593	B	COVER-RACK
T11	307-1157	P	SPRING-RELAY HOLODOWN

## CONTROL ACCESSORY GROUP 12

BATTERY CHARGER MODULE  
 1 UNDER VOLTAGE SENSOR MODULES (LINE)  
 1 UNDER VOLTAGE SENSOR MODULE (GEN)  
 NORMAL - TEST SWITCH  
 WITH LOAD-WITHOUT LOAD SWITCH  
 2 TO 3 CONVERTER (AT E ONLY)  
 EXERCISER CLOCK  
 TO START - STOP

## TO RETRANSFER (MOTOR)

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY			
MODEL	60 Hz	50 Hz	
AT C	-01	-04	
AT D	-02	-05	
AT E	-03	-06	

L REM K4-B TO K3-B	WAS	1
K ADDED K3-B-TB4-18	WAS	2
J WAS K3-B	WAS	1
H WAS K3-A	WAS	1
G WIRE WAS ON PLY	WAS	1
F REM J7-2 TO J7-12	WAS	1
E REM JUMPER ADD DRODE	WAS	1
D REVISED NOTE 3	WAS	1
C REM S FROM MODEL NO	WAS	1
B DELETED 307-1271	WAS	1
A WAS 60Hz ONLY	WAS	1

626-0039

DATE 3-30-73 BY JTM

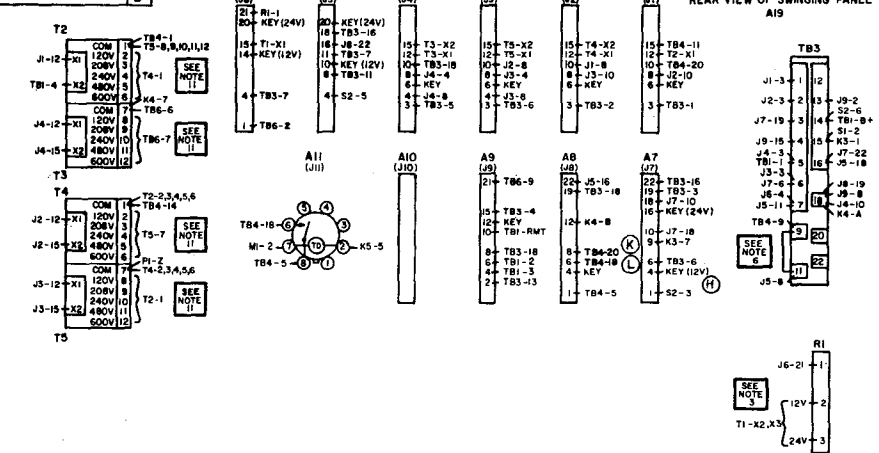
CONTROL ACCESS. PANEL (WIRING DIAGRAM)

240V 2W, 120/240V, 3W 1 PH., 50/60Hz

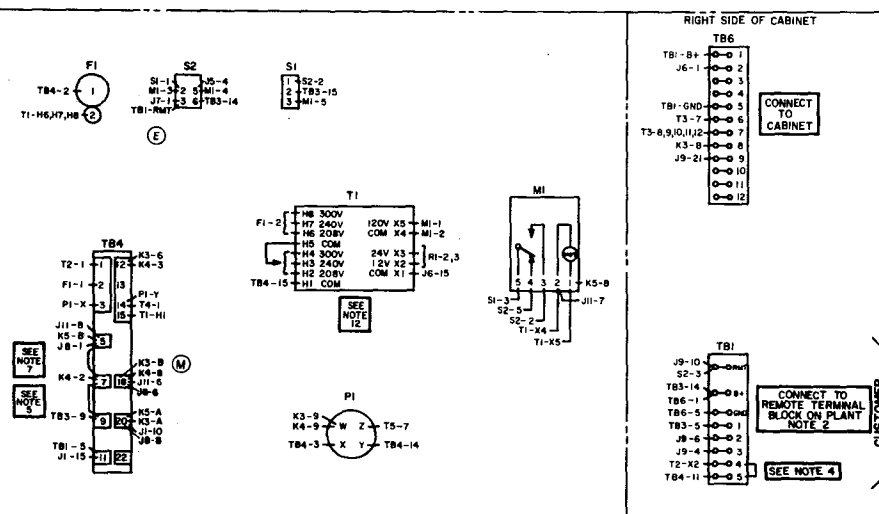
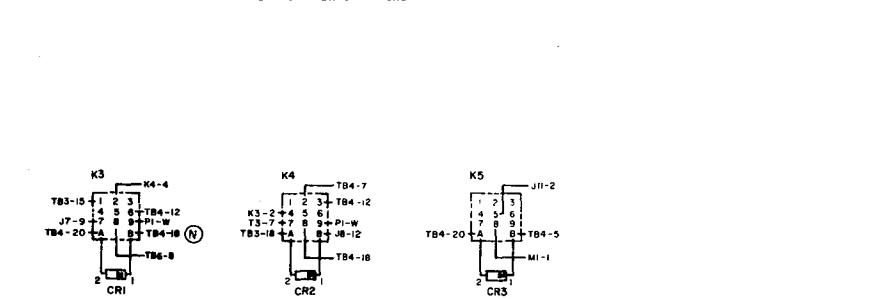
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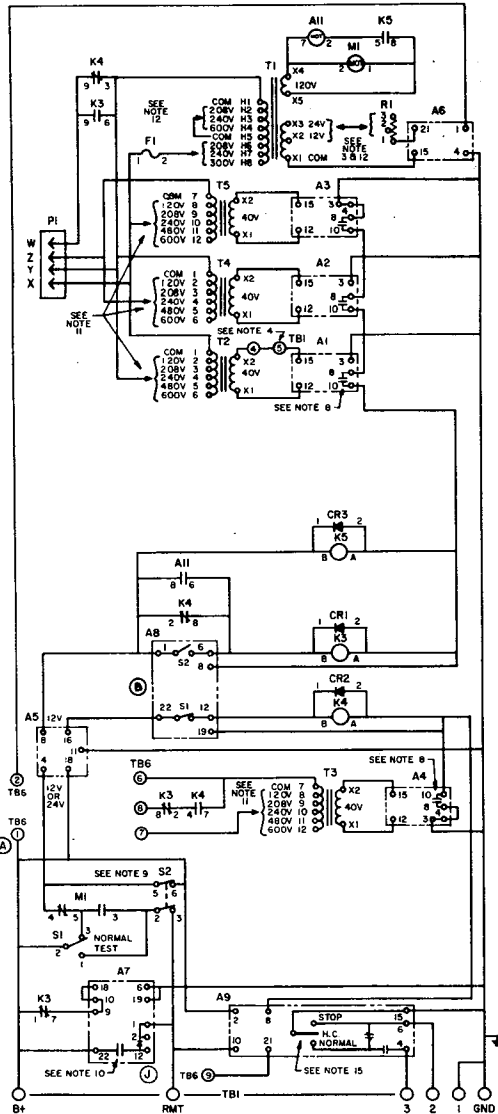
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BOTTOM VIEW OF BRACKET



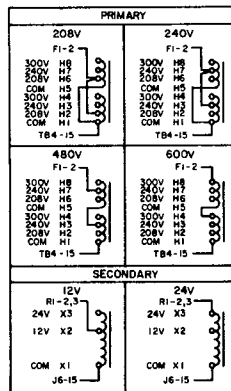
## SCHEMATIC DIAGRAM



## NOTES:

- ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
- WIRE START ON AT C & AT D CONNECT TO B, GND & RMT
- WIRE START ON AT E CONNECT TO B, 1, 2, 3, 12V CHARGING ON AT D & AT E 24V CHARGING ON AT C
- FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 RI-2,3 TO RI-2 FOR 24V BATTERY CONNECT WIRE MARKED T1-X2, X3 RI-2,3 TO RI-3
- TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TB4-4 & 5
- TO ADD OVER-VOLTAGE SENSING, REMOVE JUMPER BETWEEN TB4-7 & 9
- TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TB3-9 & 10
- TO ADD PUSH TO RETRANSFER (MOTOR TIMER) REMOVE JUMPER BETWEEN TB4-5 & 7
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE IS NORMAL (A1, A2, A3, A4)
- TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
  - WITH LOAD - PLANT STARTS AND TAKES OVER LOAD PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
  - WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
- THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER 0.5 SEC TO 15 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
- WIRE TRANSFORMERS T2, 3, 4 & 5 AS FOLLOWS
 

FOR 208V CONNECT	T4-1 TO T2-3	T86-7 TO T3-9	T5-7 TO T4-3
	T2-1 TO T5-9		
FOR 240V CONNECT	T4-1 TO T2-4 <td>T86-7 TO T3-10 <td>T5-7 TO T4-4 </td></td>	T86-7 TO T3-10 <td>T5-7 TO T4-4 </td>	T5-7 TO T4-4
	T2-1 TO T5-10		
FOR 480V CONNECT	T4-1 TO T2-5 <td>T86-7 TO T3-11 <td>T5-7 TO T4-5 </td></td>	T86-7 TO T3-11 <td>T5-7 TO T4-5 </td>	T5-7 TO T4-5
	T2-1 TO T5-11 <td></td> <td></td>		
FOR 600V CONNECT	T4-1 TO T2-6 <td>T86-7 TO T3-12 <td>T5-7 TO T4-6 </td></td>	T86-7 TO T3-12 <td>T5-7 TO T4-6 </td>	T5-7 TO T4-6
	T2-1 TO T5-12 <td></td> <td></td>		
- WIRE T1 TRANSFORMER AS FOLLOWS:



12V CHARGING ON ATSD & E  
24V CHARGING ON ATSC

626-0040

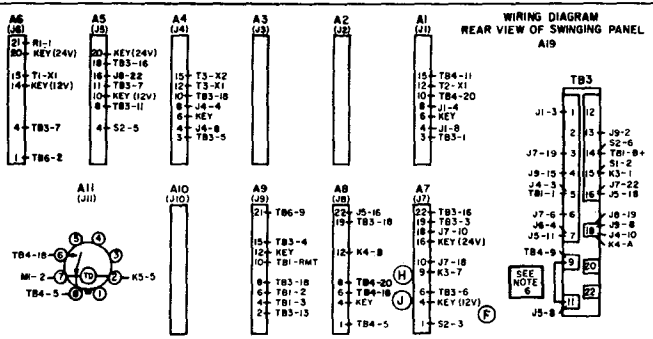
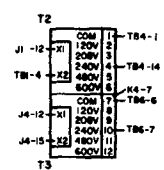
REF. DES.	PART NO.	REV.	QTY.	DESCRIPTION
A1, 2, 3	300-0780	C	3	UNDER VOLTAGE SENSOR (LINE)
A4	300-0780	C	1	UNDER VOLTAGE SENSOR (GEN)
A5	300-0847	B	1	MODULE - VOLTAGE 12V (AT D & E)
	300-0848	B	1	MODULE - 24V TO 12V CONVERTER (AT C)
A6	300-0793	C	1	BATTERY CHARGER - 2 AMP 12V (AT D & E)
	300-0794	C	1	BATTERY CHARGER - 2 AMP 24V (AT C)
A7	300-0921	C	1	TD START-STOP 12V (AT D & E)
	300-0922	C	1	TD START-STOP 24V (AT C)
				0.5 SEC TO 15 SEC DELAY ON START
A8	300-0927	B	1	0.5 SEC TO 5 MIN DELAY ON STOP
				BYPASS PLUG - TRANSFER
				SET S1 ON B, S2 OFF
A9	300-0937	B	1	MODULE - BLANK (SPARE) (AT C & D)
	300-0926	C	1	2 TO 3 WIRE CONVERTER (AT E)
A10	300-0937	B	1	MODULE - BLANK (SPARE)
A11	307-1199	B	1	ASSY - RETRANSFER 120V 50/60HZ
A19	300-0928	C	1	PANEL ASSY - SWINGING
F1	321-0180(REF)	P	1	FUSE - 1 AMP 600V
	321-0178(REF)	P	1	FUSE - HOLDER
K3	307-1058	B	1	RELAY - INTERPOSING LINE 12V
K4	307-1058	B	1	RELAY - INTERPOSING GEN 12V
K5	307-1058	B	1	RELAY - TRANSFER 12V
M1	307-1104	B	1	CLOCK - PLANT EXERCISER 120V 50HZ
	307-1102	B	1	CLOCK - PLANT EXERCISER 120V 60HZ
P1	323-0185(REF)	P	1	PLUG - LINE DISCONNECT
R1	353-0046(REF)	A	1	RESISTOR - 6 OHM 2.5 OHM TAP 75W
S1	308-0328(REF)	P	1	SWITCH - TEST TRANSFER
S2	308-0328(REF)	P	1	SWITCH - SELECTOR
T1	315-0379(REF)	B	1	TRANSFORMER - BAT CHARGER
	336-2151	A	1	LEAD ASSY (USE ON 208V & 240V ONLY)
T2-5	315-0374(REF)	C	2	TRANSFORMER ASSY - STEPDOWN
TBI	332-1515	A	1	MARKER STRIP
TB6	332-1469	A	1	MARKER STRIP
	338-0655(REF)	E	1	HARNESS - MAIN
	338-0677	C	1	HARNESS - MOTOR TIMER
	332-1279	-	13	PLUG - KEYING
	301-3593	B	1	COVER - RACK
	332-0050	-	1	CLIP - WIRE

15. 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY)  
THE SELECTOR SWITCH HAS THREE POSITIONS:  
STOP ---- SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.  
NORMAL ---- ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.  
HAND CRANK ---- PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.

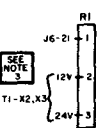
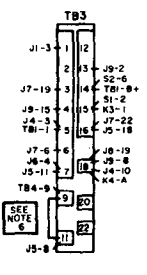
CONTROL ACCESSORY GROUP - 12  
BATTERY CHARGER MODULE  
3 UNDER VOLTAGE SENSOR MODULES (LINE)  
1 UNDER VOLTAGE SENSOR MODULE (GEN)  
NORMAL - TEST SWITCH  
WITH LOAD - WITHOUT LOAD SWITCH  
2 TO 3 CONVERTER (AT E ONLY)  
EXERCISER CLOCK  
TD START-STOP  
TO RETRANSFER (MOTOR)

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY			
MODEL	60 Hz	50 Hz	
AT C	-01	-04	
AT D	-02	-05	
AT E	-03	-06	

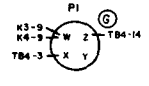
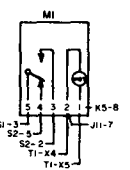
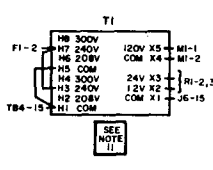
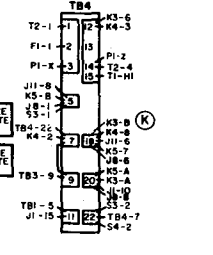
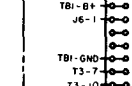
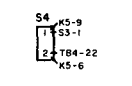
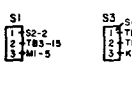
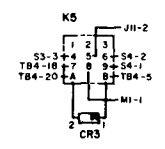
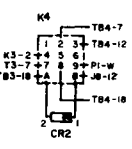
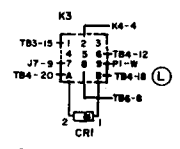
REV. 1-31-73 JTM  
DATE 1-31-73 JTM  
SPEC A  
CONTROL ACCESS. PANEL (WIRING DIAGRAM)  
626-0040



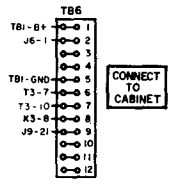
WIRING DIAGRAM  
REAR VIEW OF SWINGING PANEL  
A19



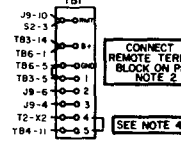
BOTTOM VIEW OF BRACKET



RIGHT SIDE OF CABINET



CONNECT TO CABINET



CONNECT TO REMOTE TERMINAL BLOCK ON PLANT NOTE 2

CUSTOMER CONNECTIONS

NOTES:  
1. ALL COMPONENTS SHOWN IN  
DE-ENERGIZED POSITION UNLESS  
OTHERWISE NOTED

2. WIRE START ON AT C & AT D  
CONNECT TO B+, GND & RMT
3. WIRE START ON AT E  
CONNECT TO B+, I2, G, 3  
12V CHARGING ON AT D & AT E  
24V CHARGING ON AT C
4. FOR 12V BATTERY CONNECT WIRE MARKED  
T1-X2, X3 RI-2 TO RI-3
5. TO ADD AREA PROTECTION EQUIPMENT,  
OR REMOVE TEST TRANSFER SWITCH,  
REMOVE JUMPER BETWEEN T81 - & B5
6. TO ADD OVER-VOLTAGE SENSING,  
REMOVE JUMPER BETWEEN T84 - & B9
7. TO ADD OVER & UNDER FREQ SENSING,  
REMOVE JUMPER BETWEEN T83-9 & I0
8. REMOVE JUMPER BETWEEN T84 - & B7
9. THIS CONTACT SYMBOLIZES A SOLID  
STATE SWITCH THAT CLOSURES WHEN  
VOLTAGE IS NORMAL (AI & A4)
10. TEST OR EXERCISE (S2 SHOWN IN  
WITHOUT LOAD)
11. WITH LOAD - PLANT STARTS AND  
TAKES OVER LOAD. PLANT RUNS  
FOR DURATION OF TEST OR  
EXERCISE PERIOD PLUS ANY  
TIME DELAYS
12. WITHOUT LOAD - PLANT STARTS  
AND RUNS FOR DURATION OF  
TEST OR EXERCISE PERIOD
13. THIS CONTACT SYMBOLIZES A SOLID  
STATE SWITCH WHICH CLOSURES AFTER  
0.5 SEC TO 10 SEC DELAY AND OPENS  
AFTER 0.5 MIN TO 5 MIN DELAY
14. FOR 12V BATTERY CHARGING CONNECT  
RI-2, 3, T1-X2 (AT D & E)  
FOR 24V BATTERY CHARGING CONNECT  
RI-2, 3, T1-X3 (AT C)
15. 2 TO 3 WIRE CONVERTER (USED ON ATSE  
ONLY) THE CONTACT SWITCH HAS THREE  
POSITIONS:  
STOP-----SHUTS DOWN THE PLANT AND  
PREVENTS IT FROM STARTING.  
USE THIS POSITION WHEN  
SERVICING THE ATSE.  
NORMAL-----ALLOWS THE PLANT TO START  
AND ASSUME THE LOAD IF A  
LINE FAILURE OCCURS.  
HAND CRANK-----PREVENTS THE PLANT  
STARTING BUT ALLOWS STARTING  
AND STOPPING AT THE PLANT.  
USE THIS POSITION FOR PLANT  
MAINTENANCE.

BATTERY CHARGER MODULE  
1 UNDER VOLTAGE SENSOR MODULES (LINE)  
1 UNDER VOLTAGE SENSOR MODULE (GEN)  
NORMAL - TEST SWITCH  
WITH LOAD - WITHOUT LOAD SWITCH  
2 TO 3 CONVERTER (AT E ONLY)  
EXERCISER CLOCK  
TD START-STOP  
PUSH TO RETRANSFER SWITCH  
AUTO-MANUAL RETRANSFER SWITCH

THIS INFORMATION IS FOR

THIS INFORMATION IS FOR  
MANUFACTURERS USE ONLY

MODEL	60 Hz	50 Hz
AT C	-01	-04
AT D	-02	-05
AT E	-03	-06

Time VINT 4-10 79

(C) AT C } SPEC A  
AT D }  
AT E }

240V, 2W, 120/240V

1 PH., 50/60

[illegible]

ORGAN DIVISION OF OILS CORPORATION

302 10 73 04 1973 1973 1973

3-30-79	JTM	JTM VINT
CONTROL ACCESS PANEL		

(WIRING DIAGRAM)

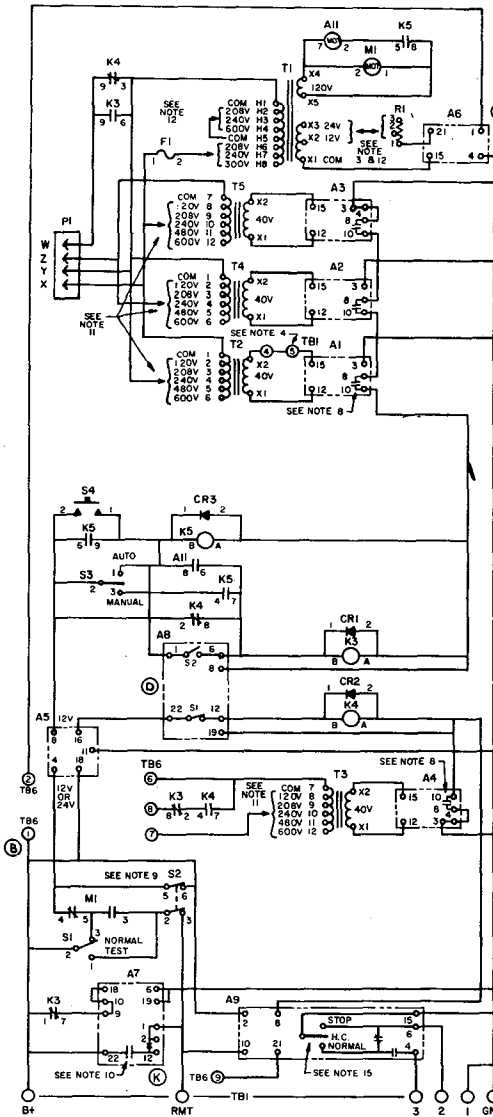
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# SCHEMATIC DIAGRAM

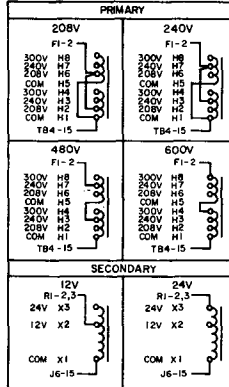


## NOTES:

1. ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
2. WIRE START ON AT C & AT D CONNECT TO B+, GND & RMT
3. WIRE START ON AT E CONNECT TO B+, 12V, & 3 12V CHARGING ON AT D & B AT E 24V CHARGING ON AT C
4. FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 RI-2, TO RI-2 FOR 24V BATTERY CONNECT WIRE MARKED T1-X2, X3 RI-2, TO RI-3
5. TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TB4-7 & B 5
6. TO ADD OVER-VOLTAGE SENSING, REMOVE JUMPER BETWEEN TB4-7 & B 9
7. TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TB3-9 & B 10
8. REMOVE JUMPER BETWEEN TB4-5 & B 7
9. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE IS NORMAL (A1, A2, A3, & A4)
10. TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
  - 9.1. WITH LOAD - PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
  - 9.2. WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
11. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER 0.5 SEC TO 15 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
12. WIRE TRANSFORMERS T2, 3, 4 & 5 AS FOLLOWS
 

FOR 208V CONNECT	T4-1 TO T2-3	T6-7 TO T3-9	T5-7 TO T4-3
FOR 240V CONNECT	T4-1 TO T2-4 <td>T6-7 TO T3-10 <td>T5-7 TO T4-4 </td></td>	T6-7 TO T3-10 <td>T5-7 TO T4-4 </td>	T5-7 TO T4-4
FOR 480V CONNECT	T4-1 TO T2-5 <td>T6-7 TO T3-11 <td>T5-7 TO T4-5 </td></td>	T6-7 TO T3-11 <td>T5-7 TO T4-5 </td>	T5-7 TO T4-5
FOR 600V CONNECT	T4-1 TO T2-6 <td>T6-7 TO T3-12 <td>T5-7 TO T4-6 </td></td>	T6-7 TO T3-12 <td>T5-7 TO T4-6 </td>	T5-7 TO T4-6

12. WIRE T1 TRANSFORMER AS FOLLOWS:



12V CHARGING ON ATSD & E  
24V CHARGING ON ATSD

REF DES	PART NO	QTY	DESCRIPTION
A1, 2, 3	300-0780	C 3	UNDER VOLTAGE SENSOR (LINE)
A4	300-0780	C 1	UNDER VOLTAGE SENSOR (GEN)
A5	300-0847	B 1	MODULE - VOLTAGE 12V (AT D & E)
A6	300-0848	B 1	MODULE - 24V TO 12V CONVERTER (AT C)
A7	300-0793	C 1	BATTERY CHARGER - 2 AMP 24V (AT D & E)
A8	300-0921	C 1	TD START-STOP 12V (AT D & E)
A9	300-0922	C 1	TD START-STOP 24V (AT C)
A10	300-0927	B 1	0.5 SEC TO 15 SEC DELAY ON START 0.5 SEC TO 5 MIN DELAY ON STOP BYPASS PLUG - TRANSFER SET S1 ON & S2 OFF
A11	300-0937	B 1	MODULE - BLANK (SPARE) (AT C & D)
A12	300-0937	B 1	MODULE - BLANK (SPARE) (AT E)
A13	307-1199	B 1	ASSY - RETRANSFER 120V 50/60Hz
A14	300-0928	C 1	PANEL ASSY - SWINGING
F1	321-0180(REF)	P 1	FUSE - 1 AMP 600V
K3	307-1058	B 1	RELAY - INTERPOSING LINE 12V
K4	307-1058	B 1	RELAY - INTERPOSING GEN 12V
K5	307-1058	B 1	RELAY - TIMER & RETRANSFER 12V
M1	307-1104	B 1	CLOCK - PLANT EXERCISER 120V 50Hz
M2	307-1102	B 1	CLOCK - PLANT EXERCISER 120V 60Hz
P1	323-0185(REF)	P 1	PLUG - LINE DISCONNECT
R1	333-0046(REF)	A 1	RESISTOR - 5 OHM 2.5 OHM TAP 75W
S1	308-0320(REF)	P 1	SWITCH - TEST TRANSFER
S2	308-0322(REF)	P 1	SWITCH - SELECTOR
S3	308-0321	P 1	SWITCH - MANUAL & AUTO
S4	308-0175	A 1	SWITCH - RETRANSFER
T1	98-2467	A 1	SILKSCREEN - RETRANSFER
T2	315-0379(REF)	B 1	TRANSFORMER - BAT CHARGER
T3	315-0379	A 1	LEAD ASSY (USE ON 208V & 240V ONLY)
T4-5	315-0374(REF)	C 2	TRANSFORMER ASSY - STEPDOWN
TB1	332-1515	A 1	MARKER STRIP
TB6	332-1469	A 1	MARKER STRIP
	338-0655(REF)	E 1	HARNES - MAIN
	338-0664	C 1	HARNES - RETRANSFER
	338-0677	C 1	HARNES - MOTOR TIMER
	332-1275	- 9	PLUG - KEYING
	301-3593	B 1	COVER - RACK
	332-0050	- 1	CLIP - WIRE

15. 2 TO 3 WIRE CONVERTER (USED ON AT E ONLY)  
THE SELECTOR SWITCH HAS THREE POSITIONS:  
STOP - SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.  
NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.  
HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.

## CONTROL ACCESSORY GROUP: 13

- BATTERY CHARGER MODULE
- 3 UNDER VOLTAGE SENSOR MODULES (LINE)
- 1 UNDER VOLTAGE SENSOR MODULE (GEN)
- NORMAL - TEST SWITCH
- WITH LOAD - WITHOUT LOAD SWITCH
- 2 TO 3 CONVERTER (AT E ONLY)
- EXERCISER CLOCK
- TD START-STOP
- TD RETRANSFER (MOTOR)
- PUSH TO RETRANSFER SWITCH
- AUTO - MANUAL RETRANSFER SW.

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

MODEL	60 Hz	50 Hz
AT C	-01	-04
AT D	-02	-05
AT E	-03	-06

R	REM K4-8 TO K3-8	10/72
P	ADD K3-8-TB4-18	10/72
N	WAS K3-8	10/72
M	WAS K3-A	10/72
L	REM J7 TO J12	10/72
K	REM JUMPER, ADD DIODE	10/72
J	REVISED NOTE 3	10/72
H	REM "S" FROM MODEL NO	10/72
G	J7-1 WAS J1-1 ON S2	10/72
F	ADDED 50/60 Hz	10/72
E	DELETED 307-1271	10/72
D	ADDED S1 & S2	10/72
C	REVISED 1 & 4	10/72
B	ADDED TB4-1 TO SCHEM	10/72
A	WAS 307B1199	10/72

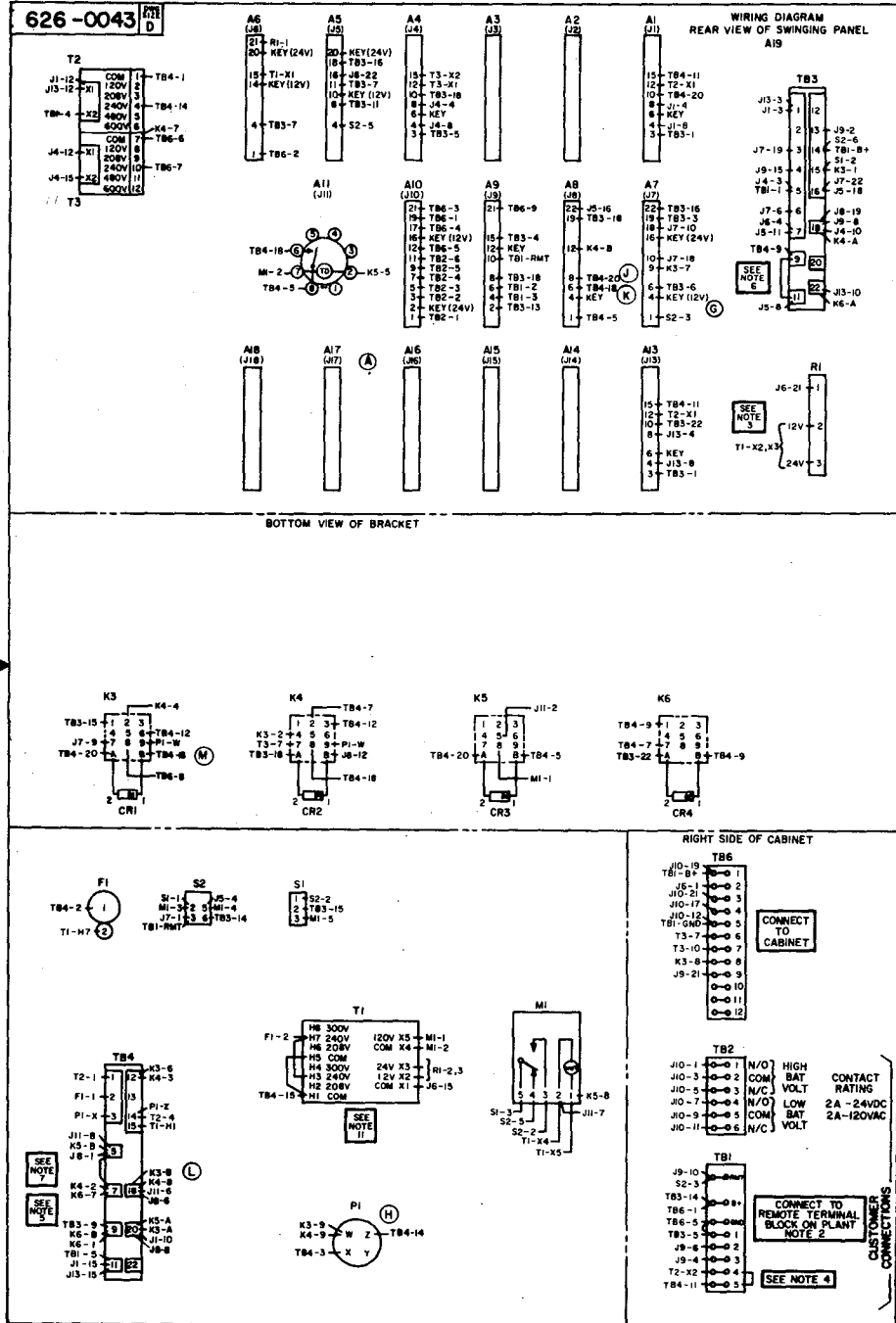
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DATE: 1-11-73 BY: JTM FOR: 10/72

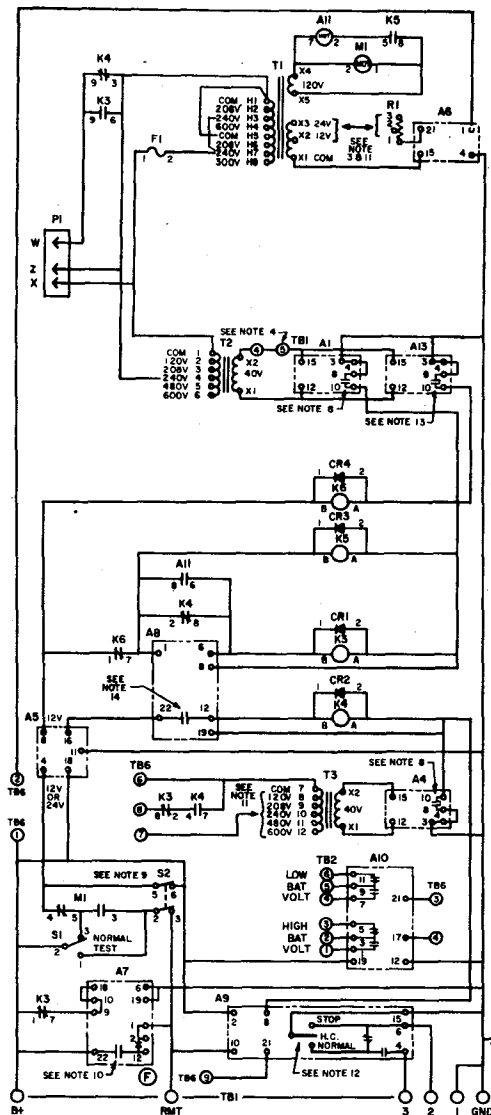
CONTROL ACCESS PANEL (WIRING DIAGRAM)

626-0042

626-0043



SCHEMATIC DIAGRAM



## NOTES:

1. ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
2. 2 WIRE START ON AT C & B AT D CONNECT TO B+ GND & RMT
3. 3 WIRE START ON AT E CONNECT TO B+ 1, 2, & 3 12V CHARGING ON AT D & B AT E 24V CHARGING ON AT C
4. TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TBI-4 & 5
5. REMOVE JUMPER BETWEEN TB4-7 & 9
6. TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TB3-9 & 10
7. TO ADD PUSH TO RETRANSFER (MOTOR TIMER) REMOVE JUMPER BETWEEN TB4-5 & 7
8. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE IS NORMAL (A1 & A4)
9. TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
  - 9.1. WITH LOAD - PLANT STARTS AND TAKES OVER LOAD PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
  - 9.2. WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
10. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER 0.5 SEC TO 10 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
11. FOR 12V BATTERY CHARGING CONNECT R1-2, 3 TO T1-X2 (AT D & E) FOR 24V BATTERY CHARGING CONNECT R1-2, 3 TO T1-X3 (AT C)
12. 2 TO 3 WIRE CONVERTER (USED ON ATSE ONLY) THE SELECTOR SWITCH HAS THREE POSITIONS:
  - STOP - SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.
  - NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.
  - HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.
13. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE GOES ABOVE NORMAL (A13)
14. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES AFTER A DELAY OF 0.5 SEC TO 10 SEC DELAY ON LOAD TRANSFER

REF DES	PART NO.	QTY	DESCRIPTION
A1	300-0760	C	UNDER VOLTAGE SENSOR (LINE)
A2,3	300-0937	B	MODULE-BLANK (SPARE)
A4	300-0780	C	UNDER VOLTAGE SENSOR (GEN)
A5	300-0647	B	MODULE-VOLTAGE 12V (AT D & E)
A6	300-0648	B	MODULE-24V TO 12V CONVERTER (AT C)
A7	300-0793	C	BATTERY CHARGER-2 AMP (AT D & E)
A8	300-0794	C	BATTERY CHARGER-2 AMP (AT C)
A9	300-0921	C	TO START STOP 12V (AT D & E)
A10	300-0922	C	TO START STOP 24V (AT C)
A11	300-0924	C	TO START STOP 12V (AT C)
A12	300-0924	C	TO START STOP 24V (AT C)
A13	300-0924	C	TO START STOP 12V (AT C)
A14,18	300-0937	B	MODULE-BLANK (SPARE)
A15	300-0937	B	MODULE-BLANK (SPARE)
A16	300-0926	C	TO 3 WIRE CONVERTER (ATSE)
A17	300-0796	C	BATTERY V SENSOR 12V (AT D & E)
A18	300-0797	C	BATTERY V SENSOR 24V (AT C)
A19	300-0930	C	PANEL ASSY-SWINGING
F1	321-0801REF	P	FUSE-1 AMP 600V
F2	321-0780REF	P	FUSE-HOLDER
K3	307-1058	B	RELAY-INTERPOSING LINE 12V
K4	307-1058	B	RELAY-INTERPOSING LINE 12V
K5	307-1058	B	RELAY-TIMER 12V
K6	307-1058	B	RELAY-OVER VOLTAGE LINE 12V
M1	307-1104	B	CLOCK-PLANT EXERCISER 120V 60Hz
M2	307-1102	B	CLOCK-PLANT EXERCISER 120V 60Hz
P1	323-0854REF	P	PLUG-LINE DISCONNECT
R1	333-0046REF	A	RESISTOR-6 OHM 2.5 OHM TAP 75W
S1	308-0321REF	P	SWITCH-TEST TRANSFER
S2	308-0322REF	P	SWITCH-SELECTOR
T1	35-0379REF	B	TRANSFORMER-BAT CHARGER
T2,3	315-0374REF	C	TRANSFORMER ASSY-STEPPDOWN
TBI	332-1515	A	MARKER STRIP
TB2	332-1516	A	MARKER STRIP
TB6	332-1469	A	MARKER STRIP
T3	338-0736REF	E	HARNESS-MAIN
T4	338-0668	D	HARNESS-OVER V
T5	338-0658	C	HARNESS-BAT V
T6	338-0677	C	HARNESS-MOTOR TIMER
T7	332-1279	-	9 PLUG-KEYING
T8	323-0814	P	GUIDES-PC BOARD
T9	307-1157	P	SPRING-RELAY HOLDDOWN

## CONTROL ACCESSORY GROUP 14

BATTERY CHARGER MODULE  
 1 UNDER VOLTAGE SENSOR MODULES (LINE)  
 1 UNDER VOLTAGE SENSOR MODULE (GEN)  
 NORMAL - TEST SWITCH  
 WITH LOAD-WITHOUT LOAD SWITCH  
 2 TO 3 CONVERTER (AT E ONLY)  
 EXERCISER CLOCK  
 TO START-STOP  
 TO TRANSFER  
 BATTERY VOLTAGE SENSOR  
 10 VOLT SENSOR MODULES (LINE)  
 TO RETRANSFER (MOTOR)

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY	
MODEL	60 Hz
AT C	-01
AT D	-02
AT E	-03

1. 12V BATTERY CHARGER	1. 12V BATTERY CHARGER
2. 12V BATTERY CHARGER	2. 12V BATTERY CHARGER
3. 12V BATTERY CHARGER	3. 12V BATTERY CHARGER
4. 12V BATTERY CHARGER	4. 12V BATTERY CHARGER
5. 12V BATTERY CHARGER	5. 12V BATTERY CHARGER
6. 12V BATTERY CHARGER	6. 12V BATTERY CHARGER
7. 12V BATTERY CHARGER	7. 12V BATTERY CHARGER
8. 12V BATTERY CHARGER	8. 12V BATTERY CHARGER
9. 12V BATTERY CHARGER	9. 12V BATTERY CHARGER
10. 12V BATTERY CHARGER	10. 12V BATTERY CHARGER
11. 12V BATTERY CHARGER	11. 12V BATTERY CHARGER
12. 12V BATTERY CHARGER	12. 12V BATTERY CHARGER
13. 12V BATTERY CHARGER	13. 12V BATTERY CHARGER
14. 12V BATTERY CHARGER	14. 12V BATTERY CHARGER
15. 12V BATTERY CHARGER	15. 12V BATTERY CHARGER
16. 12V BATTERY CHARGER	16. 12V BATTERY CHARGER
17. 12V BATTERY CHARGER	17. 12V BATTERY CHARGER
18. 12V BATTERY CHARGER	18. 12V BATTERY CHARGER
19. 12V BATTERY CHARGER	19. 12V BATTERY CHARGER
20. 12V BATTERY CHARGER	20. 12V BATTERY CHARGER

626-0043

DATE: 3-30-73

BY: JTM

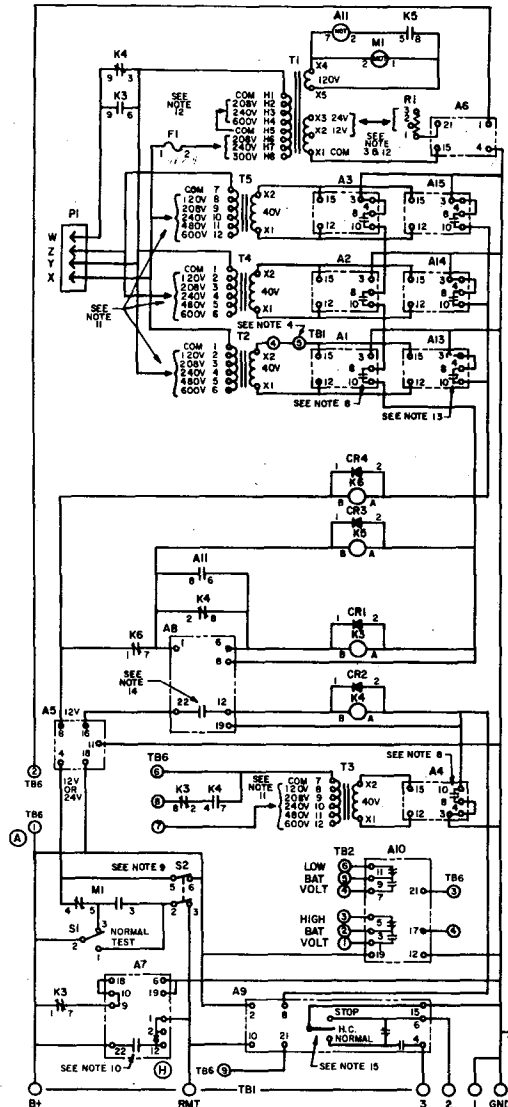
CONTROL ACCESSORY PANEL (WIRING DIAGRAM)

240V, 2W, 120/240V, 3W, 1PH, 60/60Hz

626-0043



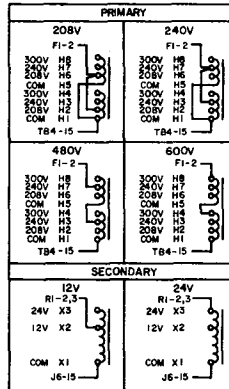
# SCHEMATIC DIAGRAM



## NOTES:

1. ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
2. WIRE START ON AT C & AT D CONNECT TO B4 GND & RMT
3. WIRE START ON AT E CONNECT TO B4, 1, 2, 3 12V CHARGING ON AT D & AT E 24V CHARGING ON AT C
3. FOR 12V BATTERY CONNECT WIRE MARKED T1-X2, X3 RI-2,3 TO RI-3
4. TO ADD AREA PROTECTION EQUIPMENT, OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TBI-4 & B5
5. REMOVE JUMPER BETWEEN TB4-7 & B9
6. TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TB3-9 & B10
7. TO ADD PUSH TO RETRANSFER (MOTOR TIMER) REMOVE JUMPER BETWEEN TB4-5 & B7
8. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSSES WHEN VOLTAGE IS NORMAL (A1, A2, A3, & A4)
9. TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
  - 9.1. WITH LOAD - PLANT STARTS AND TAKES OVER LOAD, PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
  - 9.2. WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
10. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSSES AFTER 0.5 SEC TO 1.5 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
11. WIRE TRANSFORMERS T2, 3, 4 & 5 AS FOLLOWS
 

FOR 208V CONNECT	T4-1 TO T2-3
	T6-7 TO T3-9
	T5-7 TO T4-3
	T2-1 TO T5-9
FOR 240V CONNECT	T4-1 TO T2-4
	T6-7 TO T3-10
	T5-7 TO T4-4
	T2-1 TO T5-10
FOR 480V CONNECT	T4-1 TO T2-5
	T6-7 TO T3-11
	T5-7 TO T4-5
	T2-1 TO T5-11
FOR 600V CONNECT	T4-1 TO T2-6
	T6-7 TO T3-12
	T5-7 TO T4-6
	T2-1 TO T5-12
12. WIRE T1 TRANSFORMER AS FOLLOWS:



12V CHARGING ON ATSD & E  
24V CHARGING ON ATSC

626-0044

REF DES	PART NO	QTY	DESCRIPTION	(LINE)
A1, 2, 3	300-0780	C 3	UNDER VOLTAGE SENSOR	(LINE)
A4	300-0780	C 1	UNDER VOLTAGE SENSOR	(GEN)
A5	300-0847	B 1	MODULE - VOLTAGE 12V	(AT D & E)
	300-0848	B 1	MODULE - 24V TO 12V CONVERTER	(AT C)
A6	300-0793	C 1	BATTERY CHARGER - 2 AMP 24V	(AT C)
	300-0794	C 1	BATTERY CHARGER - 2 AMP 24V	(AT C)
A7	300-0921	C 1	TO START - STOP 12V	(AT D & E)
	300-0922	C 1	TO START - STOP 24V	(AT C)
			0.5 SEC TO 1.5 SEC DELAY ON START	
			0.5 SEC TO 5 MIN DELAY ON STOP	
A8	300-0924	C 1	TO TRANSFER	
			0.5 SEC TO 1.5 SEC DELAY ON TRANSFER	
A9	300-0937	B 1	MODULE - BLANK (SPARE)	(AT C & D)
	300-0926	C 1	2 TO 3 WIRE CONVERTER	(AT E)
A10	300-0796	C 1	BATTERY V SENSOR 12V	(AT D & E)
	300-0797	C 1	BATTERY V SENSOR 24V	(AT C)
A11	307-1199	B 1	ASSY - RETRANSFER 120V	50/60Hz
A13, 15	300-0780	C 3	OVER VOLTAGE SENSOR	(LINE)
A16, 17, 18	300-0937	B 3	MODULE - BLANK (SPARE)	
A19	300-0928	C 1	PANEL ASSY - SWINGING	
F1	321-0801REF	P 1	FUSE - 1 AMP 600V	
	321-0781REF	P 1	FUSE - HOLDER	
K3	307-1058	B 1	RELAY - INTERPOSING LINE 12V	
K4	307-1058	B 1	RELAY - INTERPOSING GEN 12V	
K5	307-1058	B 1	RELAY - TIMER 12V	
K6	307-1058	B 1	RELAY - OVER VOLTAGE LINE 12V	
M1	307-1104	B 1	CLOCK - PLANT EXERCISER 120V 60Hz	
	307-1102	B 1	CLOCK - PLANT EXERCISER 120V 60Hz	
P1	323-0185REF	P 1	PLUG - LINE DISCONNECT	
R1	333-0046REF	A 1	RESISTOR - 6 OHM 2.5 OHM TAP 75W	
S1	308-0321REF	P 1	SWITCH - TEST TRANSFER	
S2	308-0322REF	P 1	SWITCH - SELECTOR	
T1	315-0379REF	B 1	TRANSFORMER - BAT CHARGER	
	336-2161	A 1	LEAD ASSY (USE ON 208V & 240V ONLY)	
T2-5	315-0374REF	C 2	TRANSFORMER ASSY - STEPDOWN	
T81	332-1515	A 1	MARKER STRIP	
T82	332-1516	A 1	MARKER STRIP	
T86	332-1469	A 1	MARKER STRIP	
	338-0655REF	E 1	HARNESS - MAIN	
	338-0657	D 1	HARNESS - OVER V	
	338-0658	C 1	HARNESS - BAT V	
	338-0677	C 1	HARNESS - MOTOR TIMER	
	332-1279	- 13	PLUG - KEYING	
	323-0814	P 6	GUIDES - PC BOARD	
	332-0050	- 1	CLIP - WIRE	

13. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSSES WHEN VOLTAGE GOES ABOVE NORMAL (A13, A14 & A15)
14. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSSES AFTER A DELAY OF 0.5 SEC TO 1.5 SEC DELAY ON LOAD TRANSFER
15. 2 TO 3 WIRE CONVERTER (USED ON ATSE ONLY)
 

THE SELECTOR SWITCH HAS THREE POSITIONS:

  - STOP - SHUTS DOWN THE PLANT AND PREVENTS IT FROM STARTING. USE THIS POSITION WHEN SERVICING THE PLANT.
  - NORMAL - ALLOWS THE PLANT TO START AND ASSUME THE LOAD IF A LINE FAILURE OCCURS.
  - HAND CRANK - PREVENTS AUTOMATIC PLANT STARTING BUT ALLOWS STARTING AND STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.

## CONTROL ACCESSORY GROUP 14

- BATTERY CHARGER MODULE  
3 UNDER VOLTAGE SENSOR MODULES (LINE)  
1 UNDER VOLTAGE SENSOR MODULE (GEN)  
NORMAL - TEST SWITCH  
WITH LOAD - WITHOUT LOAD SWITCH  
2 TO 3 CONVERTER (AT E ONLY)  
EXERCISER CLOCK  
TO START - STOP  
TO TRANSFER  
BATTERY VOLTAGE SENSOR  
2 0' VOLT SENSOR MODULES (LINE)  
TO RETRANSFER (MOTOR)

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

MODEL	60 Hz	50 Hz
AT C	-01	-04
AT D	-02	-05
AT E	-03	-06

Q REM (REF) 338-0457, 58, 77	1/2-10-73
P WAS 300-0928	2-10-73
N REM K4-8 TO K3-8	2-10-73
M ADDED K3-8 - TB4-18	2-10-73
L WAS K3-8	2-10-73
K WAS K3-8	2-10-73
J REM J7-2 TO J7-12	2-10-73
H REM JUMPER ADD DIODE	2-10-73
G REVISED NOTE 3	2-10-73
F REM 5 FROM MODEL NO	2-10-73
E J7-1 WAS J1-1 ON S2	2-10-73
D ADDED 50/60 Hz	2-10-73
C DELETED 307-1271(B)	2-10-73
B A13-18 WAS J13-18	2-10-73
A ADDED TB6-1 TO SCHEM	2-10-73

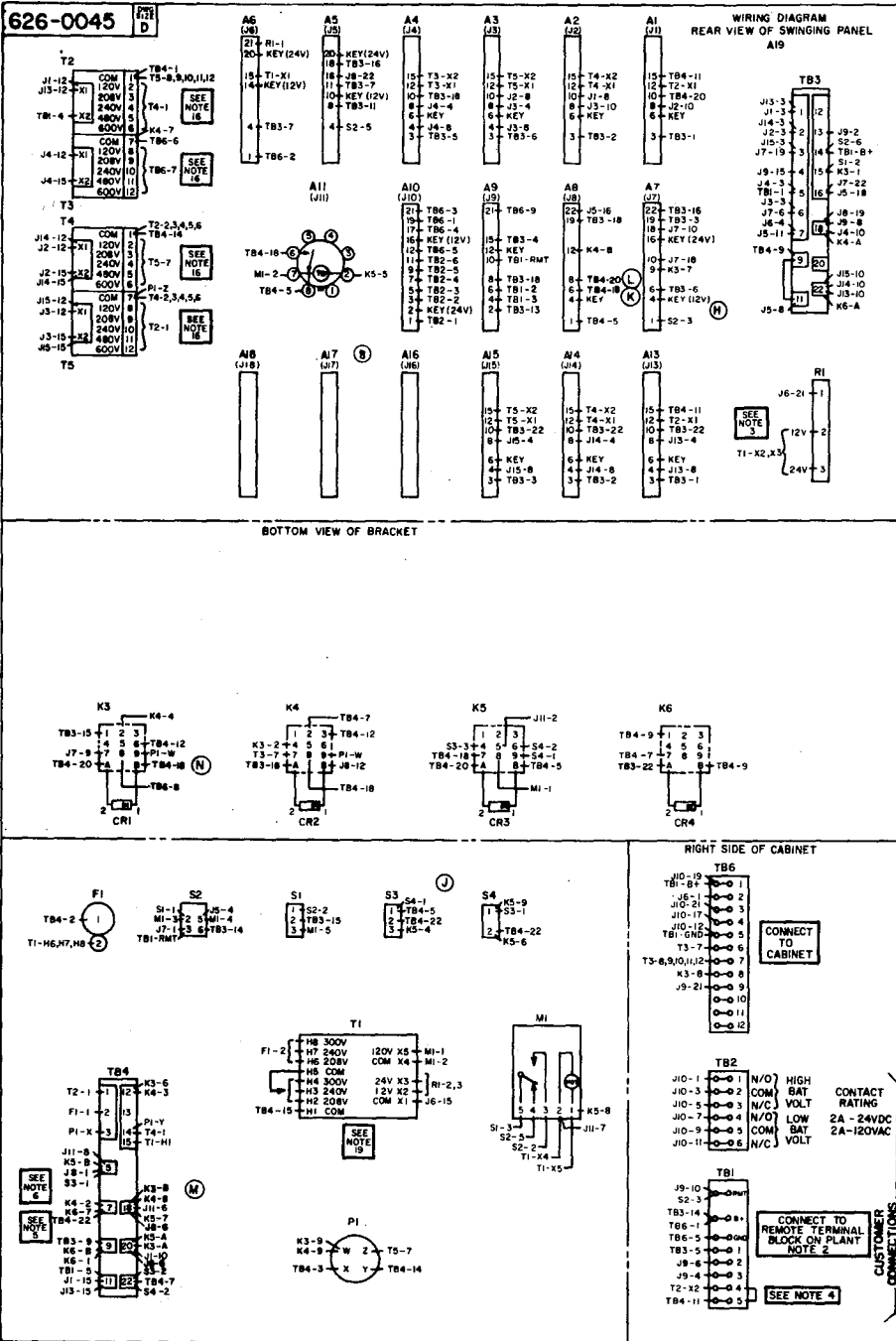
626-0044

1-12-73

CONTROL ACCESS. PANEL (WIRING DIAGRAM)

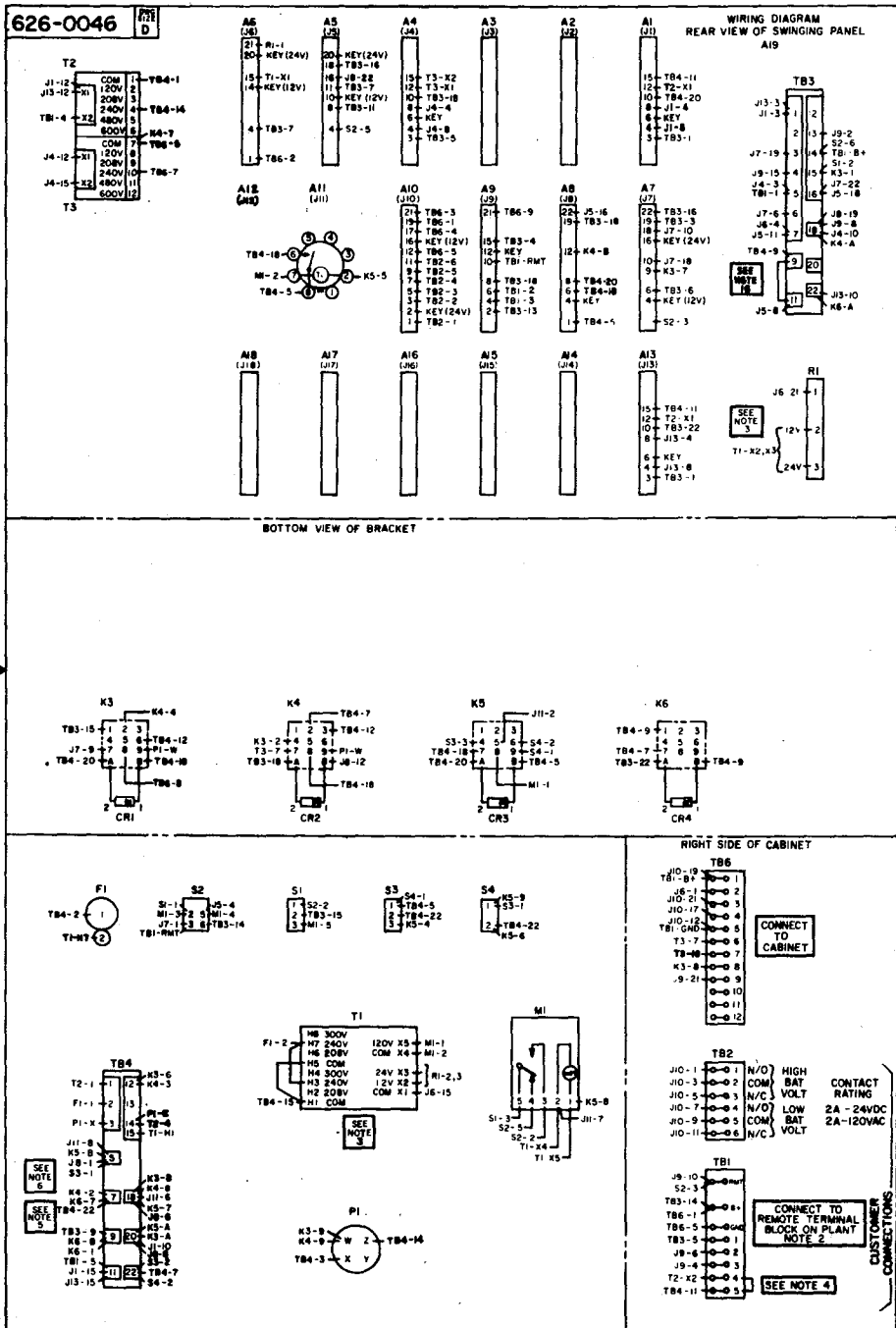
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626-0045

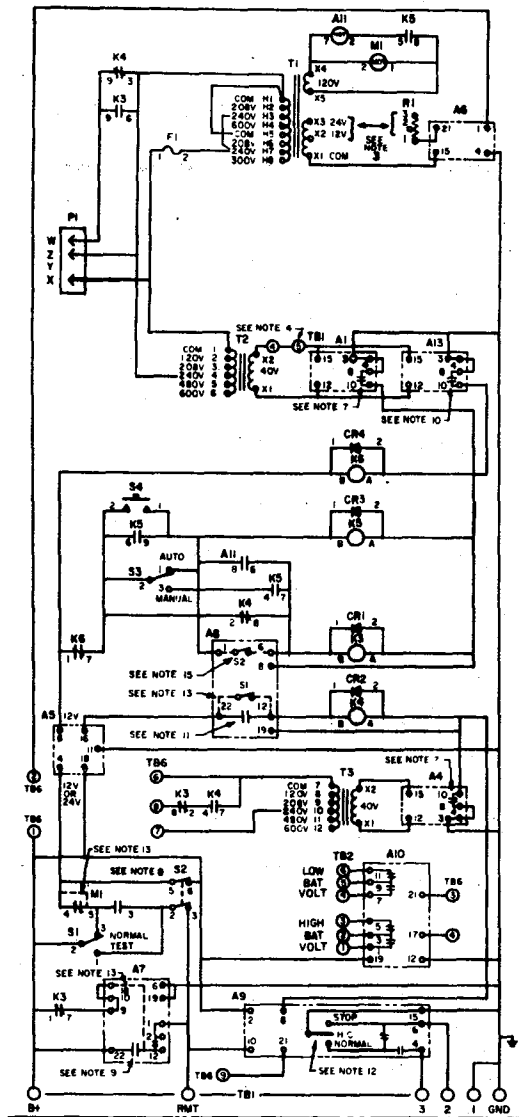
A5  
D







# SCHMATIC DIAGRAM



- NOTES:
1. ALL COMPONENTS SHOWN IN DE-ENERGIZED POSITION UNLESS OTHERWISE NOTED
  2. WIRE START ON AT C & AT D CONNECT TO 5, GND & NMT
  3. WIRE START ON AT E CONNECT TO 5, 1, 2 & 3
  4. TO ADD AREA PROTECTION EQUIPMENT OR REMOTE TEST TRANSFER SWITCH, REMOVE JUMPER BETWEEN TB1-4 & 5
  5. REMOVE JUMPER BETWEEN TB4-7 & 9
  6. REMOVE JUMPER BETWEEN TB4-5 & 7
  7. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSSES WHEN VOLTAGE IS NORMAL (A1, A2, A3, & A4)

8. TEST OR EXERCISE (S2 SHOWN IN WITHOUT LOAD POSITION)
- 8.1. WITH LOAD - PLANT STARTS AND TAKES OVER LOAD. PLANT RUNS FOR DURATION OF TEST OR EXERCISE PERIOD PLUS ANY TIME DELAYS
- 8.2. WITHOUT LOAD - PLANT STARTS AND RUNS FOR DURATION OF TEST OR EXERCISE PERIOD
9. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH WHICH CLOSURES AFTER A 0.5 SEC TO 10 SEC DELAY AND OPENS AFTER A 0.5 MIN TO 5 MIN DELAY
10. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES WHEN VOLTAGE GOES ABOVE NORMAL (A1, A14 & A15)
11. THIS CONTACT SYMBOLIZES A SOLID STATE SWITCH THAT CLOSURES AFTER A DELAY OF 0.5 SEC TO 10 SEC DELAY ON LOAD TRANSFER
12. 2 TO 3 WIRE CONVERTER (AT E ONLY) THE SELECTOR SW HAS THREE POSITIONS: STOP - STOPS PLANT, PREVENTS STARTING. USE THIS POSITION FOR SERVICING PLANT. NORMAL - ALLOWS PLANT TO START. ASSUMES LOAD IF A LINE FAILURE OCCURS. HAND CRANK - PREVENTS AUTOMATIC START. ALLOWS STARTING & STOPPING AT THE PLANT. USE THIS POSITION FOR PLANT MAINTENANCE.
13. THIS DASHED LINE REPRESENTS A JUMPER CIRCUIT THAT MUST BYPASS A CONTACT OR CLOSE A CIRCUIT TO OPERATE WITHOUT THE REFERENCED MODULE
14. S2 IS SET IN 'ON' POSITION AT FACTORY. WHEN ADDING TO RETRANSFER (MOTOR) TIMER SET S2 TO OFF POSITION
15. WHEN ADDING TO TRANSFER WITHOUT A TO RETRANSFER (MOTOR) TIMER ADD WIRE JUMPER BETWEEN TERMINAL 1 & 6 ON THE TO TRANSFER BOARD
16. TO ADD OVER & UNDER FREQ SENSING, REMOVE JUMPER BETWEEN TB3-9 & 11.

17. WIRING DIAGRAM SHOWS CIRCUIT AS IF ALL ADDER PACKAGES WERE INSTALLED, PLUS IT SHOWS JUMPERS REQUIRED WHEN THEY ARE NOT INSTALLED

REF DES	PART NO	REV	QTY	DESCRIPTION
A1	300-0780	C	1	UNDER VOLTAGE SENSOR (LINE)
A2,3	300-0937	B	2	MODULE - BLANK (SPARE)
A4	300-0780	C	1	UNDER VOLTAGE SENSOR (GEN)
A5	300-0847	B	1	MODULE - VOLTAGE 12V (AT D & E)
A6	300-0848	B	1	MODULE - 24V TO 12V CONVERTER (AT C)
A7	300-0937	B	1	BATTERY CHARGER - 2 AMP (AT D & E)
A8	300-0780	C	1	BATTERY CHARGER - 2 AMP (AT C)
A9	300-0937	B	1	BYPASS PLUG - START STOP
A10	300-0937	B	1	SET S1 ON & S2 OFF
A11,12	300-0924	C	1	TO START - STOP 12V (AT D & E)
A13	300-0924	C	1	TO START - STOP 24V (AT C)
A14	300-0924	C	1	0.5 SEC TO 10 SEC DELAY ON START
A15	300-0924	C	1	0.5 SEC TO 5 MIN DELAY ON STOP
A16	300-0924	C	1	BYPASS PLUG - TRANSFER
A17	300-0924	C	1	SET S1 ON & S2 (SEE NOTE 14)
A18	300-0924	C	1	TO TRANSFER (SEE NOTE 15)
A19	300-0937	B	1	0.5 SEC TO 10 SEC DELAY
A20	300-0924	C	1	MODULE - BLANK (SPARE) (AT C & D)
A21	300-0937	B	1	2 TO 3 WIRE CONVERTER (AT E)
A22	300-0937	B	1	MODULE - BLANK (SPARE)
A23	300-0780	C	1	BATTERY VOLTAGE SENSOR (AT D & E)
A24	300-0780	C	1	BATTERY VOLTAGE SENSOR (AT C)
A25	300-0937	B	2	MODULE - BLANK (SPARE)
A26	307-1199	REF	B	ASSY - RETRANSFER 120V 50/60Hz
A27	300-0937	B	1	MODULE - BLANK (SPARE)
A28	300-0780	C	1	OVER VOLTAGE SENSOR (LINE)
A29	300-0937	B	1	MODULE - BLANK (SPARE)
A30	300-0937	B	1	MODULE - BLANK (SPARE)
A31	300-0937	B	1	MODULE - BLANK (SPARE)
A32	300-0937	B	1	MODULE - BLANK (SPARE)
A33	300-0937	B	1	MODULE - BLANK (SPARE)
A34	300-0937	B	1	MODULE - BLANK (SPARE)
A35	300-0937	B	1	MODULE - BLANK (SPARE)
A36	300-0937	B	1	MODULE - BLANK (SPARE)
A37	300-0937	B	1	MODULE - BLANK (SPARE)
A38	300-0937	B	1	MODULE - BLANK (SPARE)
A39	300-0937	B	1	MODULE - BLANK (SPARE)
A40	300-0937	B	1	MODULE - BLANK (SPARE)
A41	300-0937	B	1	MODULE - BLANK (SPARE)
A42	300-0937	B	1	MODULE - BLANK (SPARE)
A43	300-0937	B	1	MODULE - BLANK (SPARE)
A44	300-0937	B	1	MODULE - BLANK (SPARE)
A45	300-0937	B	1	MODULE - BLANK (SPARE)
A46	300-0937	B	1	MODULE - BLANK (SPARE)
A47	300-0937	B	1	MODULE - BLANK (SPARE)
A48	300-0937	B	1	MODULE - BLANK (SPARE)
A49	300-0937	B	1	MODULE - BLANK (SPARE)
A50	300-0937	B	1	MODULE - BLANK (SPARE)
A51	300-0937	B	1	MODULE - BLANK (SPARE)
A52	300-0937	B	1	MODULE - BLANK (SPARE)
A53	300-0937	B	1	MODULE - BLANK (SPARE)
A54	300-0937	B	1	MODULE - BLANK (SPARE)
A55	300-0937	B	1	MODULE - BLANK (SPARE)
A56	300-0937	B	1	MODULE - BLANK (SPARE)
A57	300-0937	B	1	MODULE - BLANK (SPARE)
A58	300-0937	B	1	MODULE - BLANK (SPARE)
A59	300-0937	B	1	MODULE - BLANK (SPARE)
A60	300-0937	B	1	MODULE - BLANK (SPARE)
A61	300-0937	B	1	MODULE - BLANK (SPARE)
A62	300-0937	B	1	MODULE - BLANK (SPARE)
A63	300-0937	B	1	MODULE - BLANK (SPARE)
A64	300-0937	B	1	MODULE - BLANK (SPARE)
A65	300-0937	B	1	MODULE - BLANK (SPARE)
A66	300-0937	B	1	MODULE - BLANK (SPARE)
A67	300-0937	B	1	MODULE - BLANK (SPARE)
A68	300-0937	B	1	MODULE - BLANK (SPARE)
A69	300-0937	B	1	MODULE - BLANK (SPARE)
A70	300-0937	B	1	MODULE - BLANK (SPARE)
A71	300-0937	B	1	MODULE - BLANK (SPARE)
A72	300-0937	B	1	MODULE - BLANK (SPARE)
A73	300-0937	B	1	MODULE - BLANK (SPARE)
A74	300-0937	B	1	MODULE - BLANK (SPARE)
A75	300-0937	B	1	MODULE - BLANK (SPARE)
A76	300-0937	B	1	MODULE - BLANK (SPARE)
A77	300-0937	B	1	MODULE - BLANK (SPARE)
A78	300-0937	B	1	MODULE - BLANK (SPARE)
A79	300-0937	B	1	MODULE - BLANK (SPARE)
A80	300-0937	B	1	MODULE - BLANK (SPARE)
A81	300-0937	B	1	MODULE - BLANK (SPARE)
A82	300-0937	B	1	MODULE - BLANK (SPARE)
A83	300-0937	B	1	MODULE - BLANK (SPARE)
A84	300-0937	B	1	MODULE - BLANK (SPARE)
A85	300-0937	B	1	MODULE - BLANK (SPARE)
A86	300-0937	B	1	MODULE - BLANK (SPARE)
A87	300-0937	B	1	MODULE - BLANK (SPARE)
A88	300-0937	B	1	MODULE - BLANK (SPARE)
A89	300-0937	B	1	MODULE - BLANK (SPARE)
A90	300-0937	B	1	MODULE - BLANK (SPARE)
A91	300-0937	B	1	MODULE - BLANK (SPARE)
A92	300-0937	B	1	MODULE - BLANK (SPARE)
A93	300-0937	B	1	MODULE - BLANK (SPARE)
A94	300-0937	B	1	MODULE - BLANK (SPARE)
A95	300-0937	B	1	MODULE - BLANK (SPARE)
A96	300-0937	B	1	MODULE - BLANK (SPARE)
A97	300-0937	B	1	MODULE - BLANK (SPARE)
A98	300-0937	B	1	MODULE - BLANK (SPARE)
A99	300-0937	B	1	MODULE - BLANK (SPARE)
A100	300-0937	B	1	MODULE - BLANK (SPARE)

## CONTROL ACCESSORY GROUP 15

- STANDARD
- 1 UNDER VOLTAGE SENSOR (LINE)
  - 1 UNDER VOLTAGE SENSOR (GEN)
  - 2 TO 3 WIRE CONVERTER (AT E ONLY)
  - NORMAL - TEST SWITCH
  - WITH LOAD - WITHOUT LOAD SW
  - MANUAL PUSH TO RETRANSFER
  - BATTERY CHARGER MODULE
  - 2 UNDER VOLT SENSOR (LINE)
  - 1 OVER VOLT SENSOR (LINE)
  - TO START STOP
  - TO RETRANSFER (MOTOR)
  - TO TRANSFER
  - BATTERY VOLTAGE SENSOR
  - WIRE-IN-PACKAGE'S
  - EXERCISER CLOCK

QTY	4	REV	5-27
DATE	4-28-74	BY	RAM
CHKD	4-28-74	BY	RAM
CONTROL ACCESS PANEL (WIRING DIAGRAM)			
208, 240, 480, 600V, 1PH, 50/60Hz			
626-0046			

# METER-LAMP PANELS

## DIAGRAM

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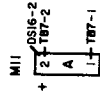
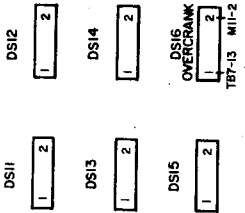
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626-0010	Combination 2, 1 Phase or 3 Phase .....	98
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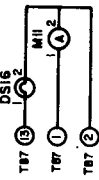
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REV C

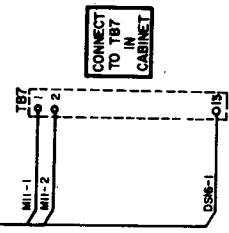
REAR VIEW OF  
METER PANEL



SCHEMATIC



LEFT SIDE OF CABINET



CONNECT  
TO TB7  
IN  
CABINET

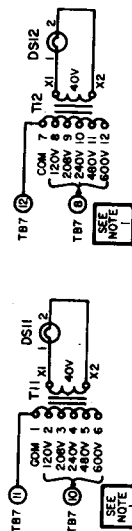
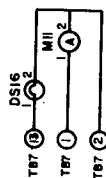
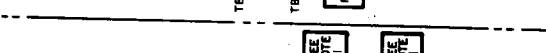
REF. DES.	PART NO.	QTY	DESCRIPTION
DS11-15	322-0141	A 5	LENS & BEZEL ASSY
DS16	322-0107	A 1	LAMP - OVERCRANK (14V)
MI1	302-0807	A 1	AMMETER - BAT CHARGER 0-2 AMP
358-0882	B 1		HARNESS - METER
501-3504	C 1		PANEL - METER
99-2412	D 1		SILKSCREEN - METER PANEL
98-2445	A 1		LABEL - POWER SENTRY
METER - LAMP COMBINATION: 01			
CHARGE AMMETER OVERCRANK LAMP (USE ON AT E ONLY)			

626-0109

THIS INFORMATION  
IS FOR  
MANUFACTURERS  
USE ONLY

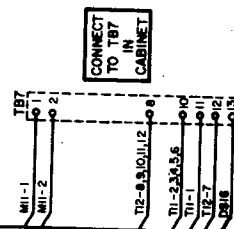
MODEL DASH NO  
AT C.D8E -01

REV	DATE	BY	CHKD	APPD
1	10-1-74	57-74		
ORIGINAL OF WORK SUBMITTED				
4-12-74 RMS 100 VOLT CDR				
METER LAMP PANEL				
(WIRING DIAGRAM)				
120,208-240,480,600V				
50/60 Hz				
626-0109 C				



NOTE: 1. WIRE TRANSFORMER T11 & T12 AS FOLLOWS:

FOR 120V, CONNECT	TB7-8 TO T11-8	TB7-10 TO T11-10
FOR 208V, CONNECT	TB7-8 TO T11-8	TB7-10 TO T11-10
FOR 240V, CONNECT	TB7-8 TO T11-8	TB7-10 TO T11-10
FOR 480V, CONNECT	TB7-8 TO T11-8	TB7-10 TO T11-10
FOR 600V, CONNECT	TB7-8 TO T11-8	TB7-10 TO T11-10



**LEFT SIDE OF CABINET**

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY	MODEL	DASH NO
	AT CODE	--01

REF. DES.	PART NO.	QTY	PARTS LIST	DESCRIPTION
DS11	322-0146	A	1	LAMP - NORMAL 56V
DS12	322-0147	A	1	LAMP - EMERGENCY 56V
DS13-15	322-0141	A	3	LENS & BEZEL ASSY
DS16	322-0107	A	1	LAMP - OVERCRANK (14V)
M11	302-0807	A	1	AMMETER - BAT CHARGER 0-2 AMP
T11/12	315-0374	C	1	TRANSFORMER ASSY - STEPOOMI
	336-0882	B	1	HARNES - METER
	338-0661	C	1	HARNES - LAMP'S (NORMAL & EMERGENCY)
	301-3504	C	1	PANEL - METER
	98-2412	D	1	SILKSREEN - METER PANEL
	98-2445	A	1	LAMP - METER

METER - LAMP COMBINATION: Q2

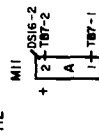
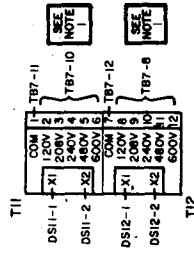
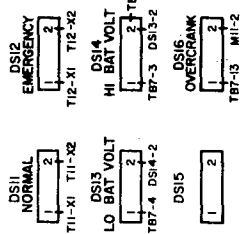
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
NORMAL & EMERGENCY LAMPS

DATE	TIME	TESTER	REVISIONS	DATE	TIME	TESTER
10-10-74	14:30-24					
<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; width: 15px; height: 15px; border-radius: 50%;"></div> </div>			<div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between;"> <span>4-12-74</span> <span>RMS</span> <span>170V Var</span> </div> <div style="text-align: center;"> <p><b>METER LAMP PANEL</b></p> <p>(WIRING DIAGRAM)</p> </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div> <p>AT C</p> <p>AT D</p> <p>AT E</p> </div> <div> <p>-SPEC 8</p> </div> </div>			<div style="display: flex; justify-content: space-between;"> <div> <p>120,208,240,480,800V</p> <p>50/60 HZ</p> </div> <div> <p>FORM 735</p> </div> <div> <p>626-0110</p> </div> </div>			

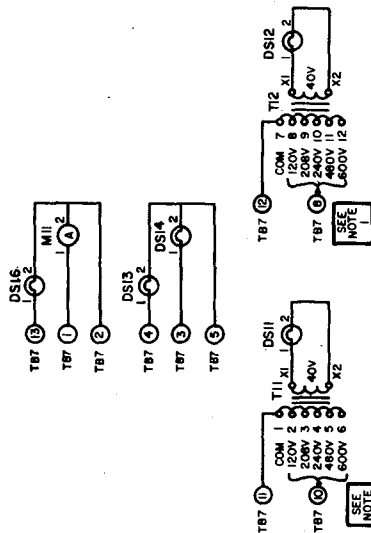


626-0112

FR C

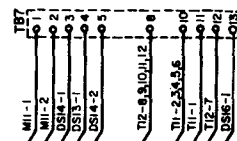
REAR VIEW OF  
METER PANEL

SCHEMATIC



NOTE:  
1. WIRE TRANSFORMER T11 & T12 AS  
FOLLOWS:  
FOR 120V, CONNECT T87-10 TO T11-2  
FOR 208V, CONNECT T87-8 TO T11-3  
FOR 240V, CONNECT T87-10 TO T11-4  
FOR 480V, CONNECT T87-10 TO T11-5  
FOR 600V, CONNECT T87-8 TO T11-6

LEFT SIDE OF CABINET

CONNECT  
TO T87  
IN  
CABINET

PARTS LIST				DESCRIPTION	
REF	DES	PART NO	QTY	UNIT	
DS11	322-0146	A	1	LAMP - NORMAL 56V	
DS12	322-0147	A	1	LAMP - EMERGENCY 56V	
DS13	322-0148	A	1	LAMP - LO BAT VOLT (4V) (AT D & E)	
DS14	322-0126	A	1	LAMP - LO BAT VOLT (28V) (AT C)	
DS15	322-0127	A	1	LAMP - HI BAT VOLT (4V) (AT D & E)	
DS16	322-0141	A	1	LAMP - HI BAT VOLT (28V) (AT C)	
M11	302-0807	A	1	LAMP - OVERCRANK (4V)	
				ANMETER-BAT CHARGER O-2 AMP	
T11/2	315-0374	C	1	TRANSFORMER ASSY-STEPDOWN	
				358-0882 B	HARNESS - METER
				358-0661 C	HARNESS - LAMPS (NORMAL & EMERGENCY)
				358-0659 B	HARNESS - LAMPS (BAT VOLTS)
				301-3504 C	PANEL - METER
				98-2412 D	SILKSCREEN-METER PANEL
				98-2445 A	LABEL-POWER SENTRY

METER - LAMP COMBINATION: 04

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
NORMAL & EMERGENCY LAMPS  
BATTERY VOLTAGE LAMPS

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY			
MODEL	DASH NO		
AT D & E	- 01		
AT C	- 02		

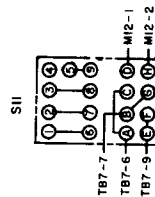
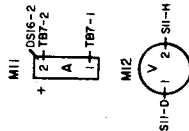
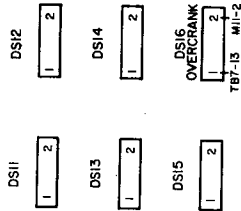
Ogion		DIVISION OF BOMB CORPORATION	
DATE	4-12-74	REV	1
BY	RMS	CHK	CDR
METER LAMP PANEL (WIRING DIAGRAM)			
AT C	SPEC B	120,208,240,480,600V	50/60 Hz
626-0112			C



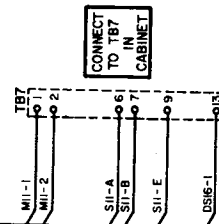


626-0114

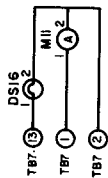
REAR VIEW OF  
METER PANEL



LEFT SIDE OF CABINET



SCHEMATIC



REF. DES.	PART NO.	QTY	DESCRIPTION
DSII-15	322-0141	A 5	LENS B BEZEL ASSY
DSI6	322-0107	A 1	LAMP - OVERCRANK (14V)
MI1	302-0807	A 1	ANMETER-BAT CHARGER 0-2 AMP
MI2	302-0421	P 1	VOLTMETER 0-300VAC (208-240V)
	302-0422	P 1	VOLTMETER 0-600VAC (480V)
	302-0423	P 1	VOLTMETER 0-750VAC (600V)
SII	308-0022	B 1	SWITCH - VOLTMETER
	332-0592	A 3	JUMPER
	98-2443	A 1	SILKSCREEN - SELECTOR SWITCH
	338-0885	D 1	HARNES-METER 3PH
	301-3506	C 1	PANEL - METER
	98-2412	D 1	SILKSCREEN-METER PANEL
	98-2445	A 1	LABEL - POWER SENTRY
METER - LAMP COMBINATION: OS			
CHARGE AMMETER			
OVERCRANK LAMP (USE ON AT E ONLY)			
VOLTMETER			
SELECTOR SW			

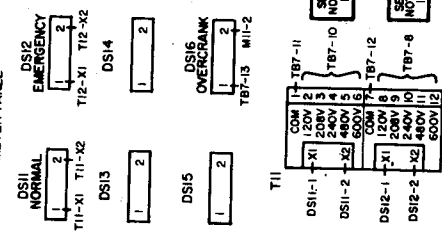
626-0114

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY
VOLTAGE DASH NO
208-240V -01
480V -02
600V -03

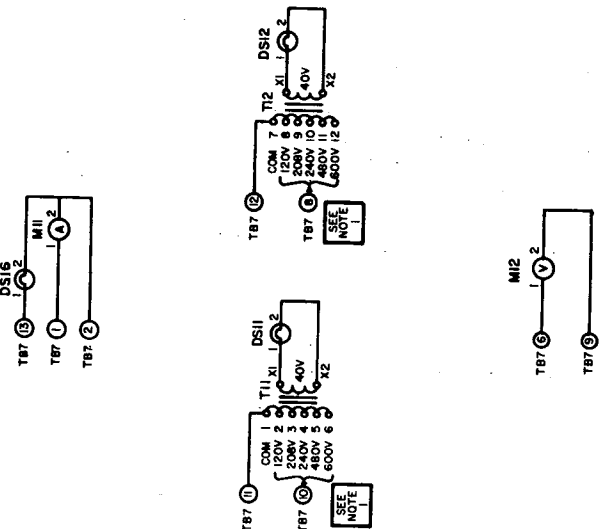
REV. 1/14	DATE 5-1-74	BY J. J. J.	DATE
DIVISION OF AIRCRAFT			
PART 4-9-74			
CDR J. J. J.			
METER LAMP PANEL			
(WIRING DIAGRAM)			
SPEC B			
208-240-480-600V			
3PH, 4W, 50/60Hz			
626-0114 C			

626-0115

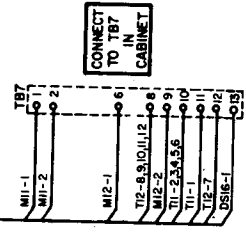
REAR VIEW OF  
METER PANEL



SCHEMATIC



LEFT SIDE OF CABINET



REF. DES.	PART NO.	PARTS LIST	QTY.	DESCRIPTION
DS11	322-0146	A	1	LAMP-NORMAL 56V
DS12	322-0147	A	1	LAMP-EMERGENCY 56V
DS13-15	302-041	A	3	LENS & BEZEL ASSY
DS16	302-0107	A	1	LAMP-OVERCRANK (14V)
MI1	302-0807	A	1	AMMETER-BAT CHARGER 0-2 AMP
MI2	302-0420	P	1	VOLTMETER 0-150VAC (120V)
	302-0421	P	1	VOLTMETER 0-300VAC (240V)
T11-12	315-0374	C	1	TRANSFORMER ASSY-STEPDOWN
	338-0883	C	1	HARNES-METER 1PH
	338-0861	C	1	HARNES-LAMPS(NORMAL & EMERGENCY)
	301-3505	C	1	PANEL-METER
	98-2413	D	1	SILKSCREEN-METER PANEL
	98-2445	A	1	LABEL-POWER SENTRY

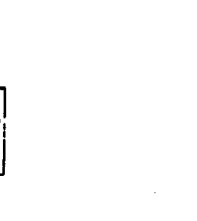
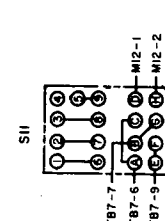
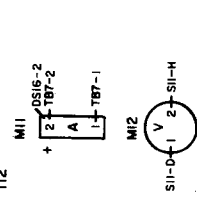
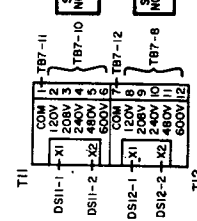
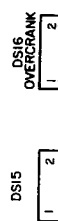
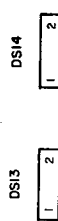
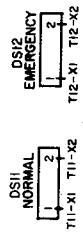
METER - LAMP COMBINATION: 06  
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
NORMAL & EMERGENCY LAMPS

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY
VOLTAGE DASH NO
120V -01
240V -02

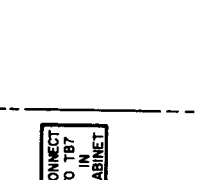
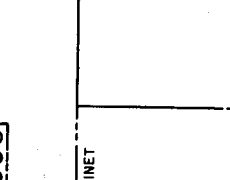
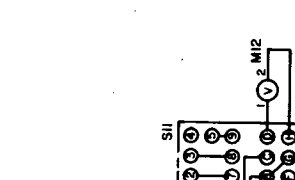
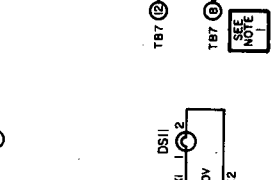
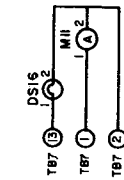
REV. 1	DATE 8-1-74	BY J.A. VINT
DIVISION OF GALE CORPORATION		
HARRISBURG, PENNSYLVANIA		
DATE 4-12-74	REV. 1	BY J.A. VINT
METER LAMP PANEL (WIRING DIAGRAM)		
AT C } SPEC B	AT D }	AT E }
120V, 2W, 120/240V, 3W, 50/60 Hz		
626-0115		

626-0116

REAR VIEW OF  
METER PANEL



SCHEMATIC



NOTE:  
1. WIRE TRANSFORMER T11 & T12 AS  
FOLLOWS

FOR 208V, CONNECT T11-10 TO T11-3  
FOR 240V, CONNECT T11-8 TO T11-9  
FOR 480V, CONNECT T11-8 TO T11-10  
FOR 600V, CONNECT T11-8 TO T11-6

626-0116

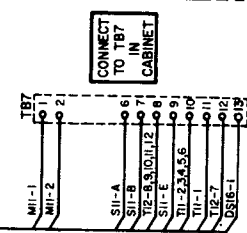
REF. DES.	PART NO.	QTY	DESCRIPTION
DS11	322-0146	A	LAMP-NORMAL 56V
DS12	322-0147	A	LAMP-EMERGENCY 56V
DS13	322-0141	A	LENS & BEZEL ASSY
DS14	322-0142	A	LAMP-OVERCRANK (14V)
DS15	322-0143	A	AMMETER-BAT CHARGER 0-2 AMP
DS16	322-0144	A	VOLTMETER 0-300VAC (208-240V)
DS17	322-0145	A	VOLTMETER 0-600VAC (480V)
DS18	322-0146	A	VOLTMETER 0-750VAC (600V)
DS19	322-0147	A	SWITCH-VOLTMETER
DS20	322-0148	A	3 JUMPER
DS21	322-0149	A	SILKSCREEN-SELECTOR SWITCH
DS22	322-0150	A	TRANSFORMER ASSY-STEPDOWN
DS23	322-0151	A	HARNES-METER 3PH
DS24	322-0152	A	HARNES-LAMPS (NORMAL & EMERGENCY)
DS25	322-0153	A	PANEL-METER
DS26	322-0154	A	SILKSCREEN-METER PANEL
DS27	322-0155	A	LABEL-POWER SENTRY

METER - LAMP COMBINATION: 06

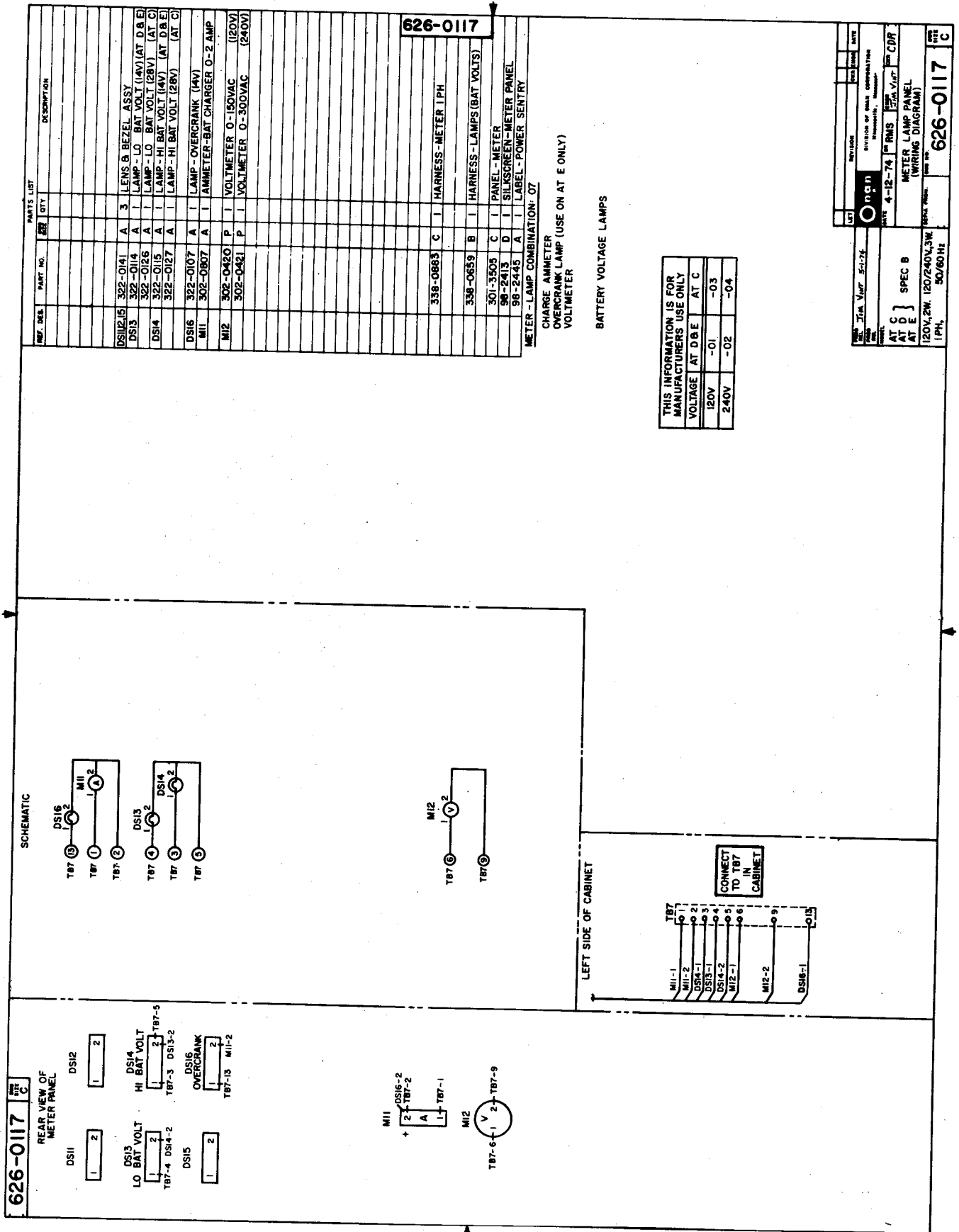
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
SELECTOR SW  
NORMAL & EMERGENCY LAMPS

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY
VOLTAGE DASH NO
208-240V -01
480V -02
600V -03

LEFT SIDE OF CABINET

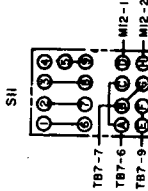
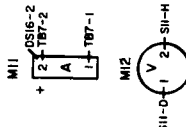
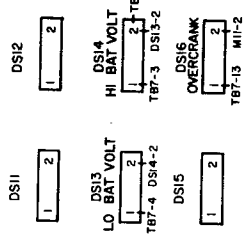


REV	DATE	BY	CHKD
1	7/1/77	5-1-77	
REVISION			
DIVISION OF ONAS CORPORATION			
MEMPHIS, TENNESSEE			
REV	DATE	BY	CHKD
1	7/1/77	5-1-77	
REVISION			
DIVISION OF ONAS CORPORATION			
MEMPHIS, TENNESSEE			
METER LAMP PANEL (WIRING DIAGRAM)			
3PH, 4W, 50/60 Hz			
626-0116			

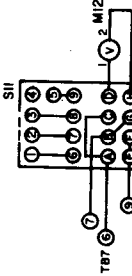
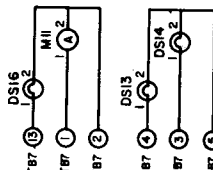


626-0118

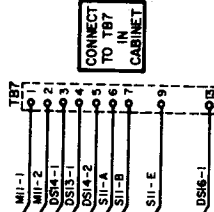
REAR VIEW OF  
METER PANEL



SCHEMATIC



LEFT SIDE OF CABINET



REF. DES.	PART NO.	QTY.	DESCRIPTION
DS11	322-0141	A	3 LENS & BEZEL ASSY
DS12	322-0114	A	1 LAMP - LO BAT VOLT (14V) (AT D & E)
DS13	322-0126	A	1 LAMP - LO BAT VOLT (28V) (AT C)
DS14	322-0115	A	1 LAMP - HI BAT VOLT (14V) (AT D & E)
DS15	322-0127	A	1 LAMP - HI BAT VOLT (28V) (AT C)
DS16	322-0107	A	1 LAMP - OVERCRANK (14V)
MI1	302-0807	A	1 AMMETER-BAT CHARGER 0-2 AMP
MI2	302-0421	P	1 VOLTMETER 0-300VAC (208-240V)
	302-0422	P	1 VOLTMETER 0-600VAC (480V)
	302-0423	P	1 VOLTMETER 0-750VAC (600V)
SII	308-0022	B	1 SWITCH - VOLTMETER
	332-0592	A	3 JUMPER
	98-2443	A	1 SILKSCREEN - SELECTOR SWITCH
	338-0685	D	1 HARNESS - METER 3PH
	338-0659	B	1 HARNESS - LAMPS (BAT VOLTS)
	301-3506	C	1 PANEL - METER
	98-2412	D	1 SILKSCREEN - METER PANEL
	98-2445	A	1 LABEL - POWER SENTRY
METER - LAMP COMBINATION: 07			
CHARGE AMMETER			
OVERCRANK LAMP (USE ON AT E ONLY)			
VOLTMETER			
SELECTOR SW			
BATTERY VOLTAGE LAMPS			

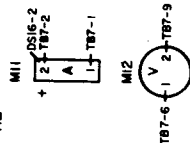
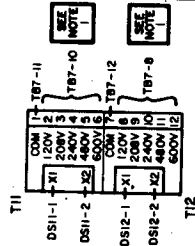
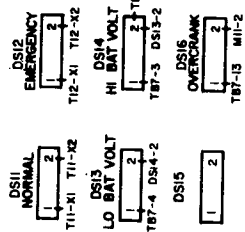
626-0118

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY			
VOLTAGE	AT D & E	AT C	
208-240V	-01	-04	
480V	-02	-05	
600V	-03	-06	

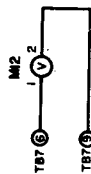
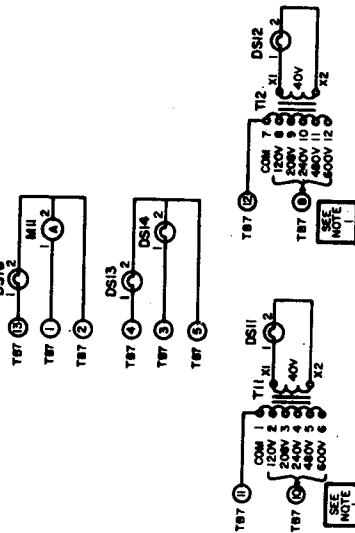
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REV. 2	DATE	
REV. 3	DATE	
REV. 4	DATE	
REV. 5	DATE	
REV. 6	DATE	
REV. 7	DATE	
REV. 8	DATE	
REV. 9	DATE	
REV. 10	DATE	
REV. 11	DATE	
REV. 12	DATE	
REV. 13	DATE	
REV. 14	DATE	
REV. 15	DATE	
REV. 16	DATE	
REV. 17	DATE	
REV. 18	DATE	
REV. 19	DATE	
REV. 20	DATE	
REV. 21	DATE	
REV. 22	DATE	
REV. 23	DATE	
REV. 24	DATE	
REV. 25	DATE	
REV. 26	DATE	
REV. 27	DATE	
REV. 28	DATE	
REV. 29	DATE	
REV. 30	DATE	
REV. 31	DATE	
REV. 32	DATE	
REV. 33	DATE	
REV. 34	DATE	
REV. 35	DATE	
REV. 36	DATE	
REV. 37	DATE	
REV. 38	DATE	
REV. 39	DATE	
REV. 40	DATE	
REV. 41	DATE	
REV. 42	DATE	
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REV. 92	DATE	
REV. 93	DATE	
REV. 94	DATE	
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REV. 97	DATE	
REV. 98	DATE	
REV. 99	DATE	
REV. 100	DATE	

626-0118

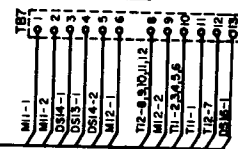
626-0119

REAR VIEW OF  
METER PANEL

## SCHEMATIC



LEFT SIDE OF CABINET



REF. DES.	PART NO.	QTY	DESCRIPTION
DS11	322-0146	A	LAMP - NORMAL 56V
DS12	322-0147	A	LAMP - EMERGENCY 56V
DS13	322-0114	A	LAMP - LO BAT VOLT (14V) (AT D & E)
DS14	322-0126	A	LAMP - HI BAT VOLT (28V) (AT C)
DS15	322-0127	A	LAMP - HI BAT VOLT (14V) (AT D & E)
DS16	322-0141	A	LENS & BEZEL ASSY
M11	302-0107	A	LAMP - OVERCRANK (14V)
M12	302-0480	P	AMMETER - BAT CHARGER 0-2 AMP
	302-0481	P	VOLTMETER 0-150VAC (120V)
	302-0482	P	VOLTMETER 0-300VAC (240V)
T11/2	315-0374	C	TRANSFORMER ASSY - STEPDOWN
	338-0883	C	HARNES - METER 1 PH
	338-0884	C	HARNES - LAMPS (NORMAL & EMERGENCY)
	338-0889	B	HARNES - LAMPS (BAT VOLTS)
	301-3505	C	PANEL - METER
	98-2413	D	SILKSCREEN - METER PANEL
	98-2445	A	LABEL - POWER SENTRY

626-0119

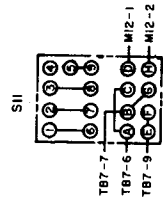
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER

NORMAL & EMERGENCY LAMPS  
BATTERY VOLTAGE LAMPS

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY			
VOLTAGE	AT D & E	AT C	AT E
120V	-01	-03	
240V	-02	-04	

REF. DES.	PART NO.	QTY	DESCRIPTION
DS11	322-0146	A	LAMP - NORMAL 56V
DS12	322-0147	A	LAMP - EMERGENCY 56V
DS13	322-0114	A	LAMP - LO BAT VOLT (14V) (AT D & E)
DS14	322-0126	A	LAMP - HI BAT VOLT (28V) (AT C)
DS15	322-0127	A	LAMP - HI BAT VOLT (14V) (AT D & E)
DS16	322-0141	A	LENS & BEZEL ASSY
M11	302-0107	A	LAMP - OVERCRANK (14V)
M12	302-0480	P	AMMETER - BAT CHARGER 0-2 AMP
	302-0481	P	VOLTMETER 0-150VAC (120V)
	302-0482	P	VOLTMETER 0-300VAC (240V)
T11/2	315-0374	C	TRANSFORMER ASSY - STEPDOWN
	338-0883	C	HARNES - METER 1 PH
	338-0884	C	HARNES - LAMPS (NORMAL & EMERGENCY)
	338-0889	B	HARNES - LAMPS (BAT VOLTS)
	301-3505	C	PANEL - METER
	98-2413	D	SILKSCREEN - METER PANEL
	98-2445	A	LABEL - POWER SENTRY

626-0119

REAR VIEW OF  
METER PANEL

FOR 208V, CONNECT	TB7-10 TO T11-3
FOR 240V, CONNECT	TB7-8 TO T12-9 TB7-10 TO T11-4 TB7-9 TO T12-1
FOR 480V, CONNECT	TB7-8 TO T12-1 TB7-10 TO T11-5 TB7-9 TO T12-1
FOR 600V, CONNECT	TB7-8 TO T11-6 TB7-9 TO T12-1 TB7-10 TO T12-1

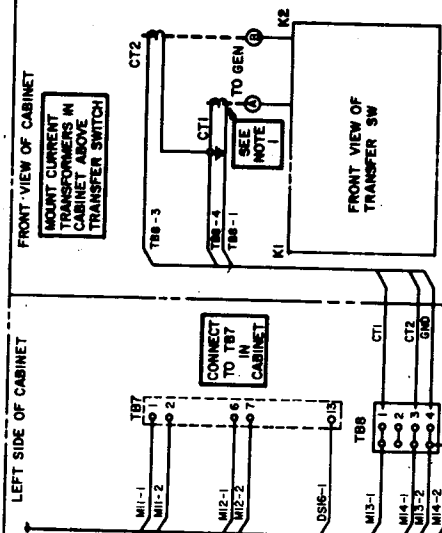
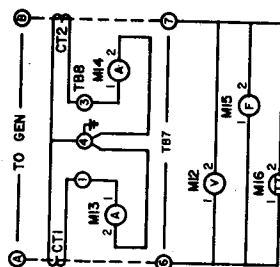
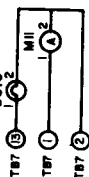
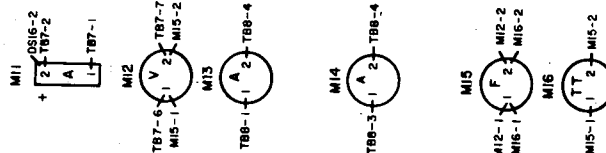
**626-0120**

TER - LAMP COMBINATION: 08  
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
SELECTOR SW  
NORMAL & EMERGENCY LAMPS  
BATTERY VOLTAGE LAMPS

**METER - LAMP COMBINATION: 08**

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY			
VOLTAGE	AT D B E	AT C	
208-240V	-01	-04	
480V	-02	-05	
600V	-03	-06	

626-0120



CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
AMMETER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY		
AMPERE	60 Hz	50 Hz
30	- 01	- 06
60	- 02	- 07
100	- 03	- 08
200	- 04	- 09
400	- 05	- 10

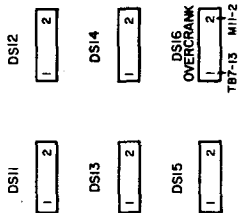
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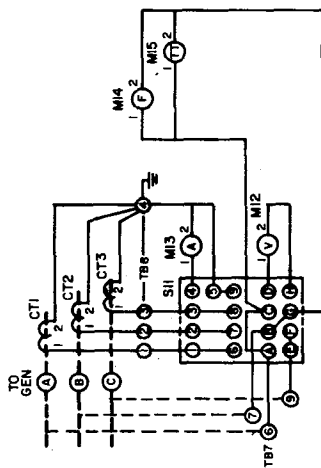
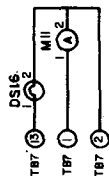


626-0123

REAR VIEW OF  
METER PANEL

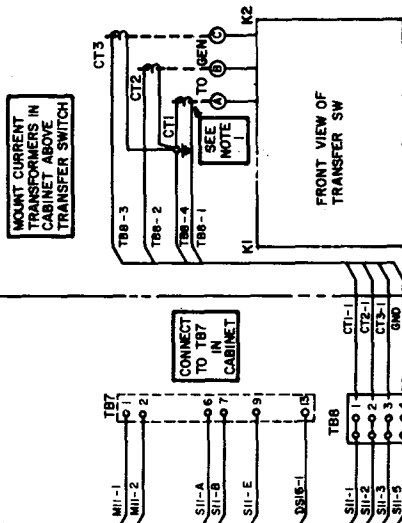


SCHEMATIC



LEFT SIDE OF CABINET

FRONT VIEW OF CABINET



THIS INFORMATION IS FOR MANUFACTURERS USE ONLY				
AMPERE	VOLTAGE	60 Hz	50 Hz	
30	208V	-01	-11	
	240V	-02	-12	
60	208V	-03	-13	
	240V	-04	-14	
100	208V	-05	-15	
	240V	-06	-16	
200	208V	-07	-17	
	240V	-08	-18	
400	208V	-09	-19	
	240V	-10	-20	

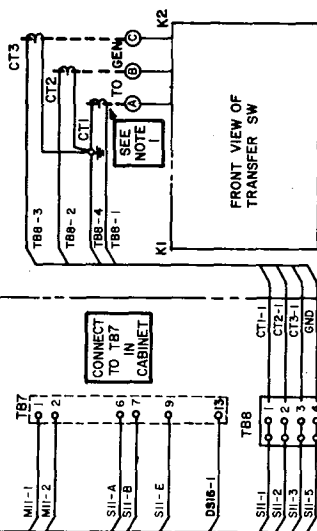
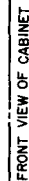
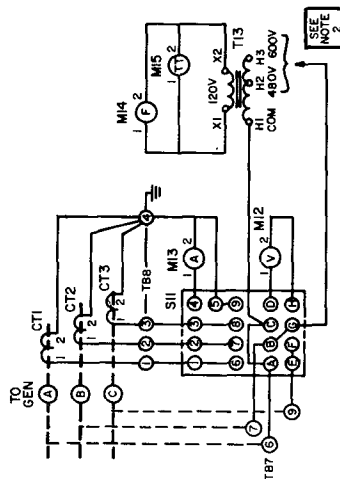
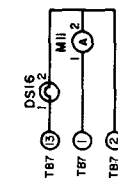
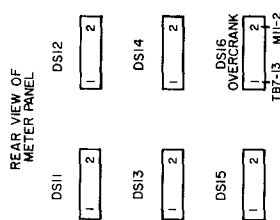
NOTES:  
1. NUMBER OF PWTURNS REQUIRED FOR  
CORRECT METER BEADING  
30A 4 TURNS  
60, 100A 2 TURNS  
200, 400A 1 TURN

REF. DES.	PART NO.	QTY.	DESCRIPTION
CT1,2,3	302-0847 B	1	TRANSFORMER ASSY-CUR (30)
	302-0848 B	1	TRANSFORMER ASSY-CUR (60)
	302-0849 B	1	TRANSFORMER ASSY-CUR (100)
	302-0850 B	1	TRANSFORMER ASSY-CUR (200)
	302-0855 B	1	TRANSFORMER ASSY-CUR (400)
DSII-15	322-0141 A	5	LENS B BEZEL ASSY
DSI6	322-0107 A	1	LAMP-OVERCRANK (14V)
MI1	302-0807 A	1	AMMETER-BAT CHARGER 0-2 AMP
MI2	302-0421 P	1	VOLTMETER 0-300VAC
MI3	302-0404 B	1	AMMETER-AC 0-35AMP (30)
	302-0406 B	1	AMMETER-AC 0-75AMP (60)
	302-0408 B	1	AMMETER-AC 0-100AMP (100)
	302-0411 P	1	AMMETER-AC 0-200AMP (200)
MI4	302-0605 P	1	AMMETER-AC 0-400AMP (400)
	302-0694 B	1	METER-FREQ POINTER 208V 50HZ
	302-0695 B	1	METER-FREQ POINTER 240V 50HZ
	302-0810 B	1	METER-FREQ POINTER 208V 60HZ
	302-0811 B	1	METER-FREQ POINTER 240V 60HZ
MI5	302-0469 P	1	METER-RUNNING TIME
SI1	302-0466 P	1	METER-RUNNING TIME
	308-0022 B	1	SWITCH-VOLT B AMMETER
	332-0592 A	3	JUMPER
	98-2443 A	1	SILKSCREEN-SELECTOR SWITCH
TB8	332-1517 A	1	MARKER STRIP
	338-0886 D	1	HARNES-METER 3PH
	301-3507 C	1	PANEL-METER
	98-2412 D	1	SILKSCREEN-METER PANEL
	98-2445 A	1	LABEL-POWER SENTRY

METER-LAMP COMBINATION: 09

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
AMMETER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
SELECTOR SW

REV. 1	DATE 5-1-74	BY J. W. J.	CHK. J. W. J.
ONCH			
METER LAMP PANEL (WIRING DIAGRAM)			
AT C	AT D	AT E	AT F
SPEC B			
208, 240V 3PH, 50/60Hz			
4W.			
626-0123			



THIS INFORMATION IS FOR MANUFACTURERS USE ONLY		60 Hz	50 Hz
AMPERE	VOLTAGE		
30	480V	- 01	- 11
	600V	- 02	- 12
	480V	- 03	- 13
60	600V	- 04	- 14
	480V	- 05	- 15
	600V	- 06	- 16
100	480V	- 07	- 17
	600V	- 08	- 18
	480V	- 09	- 19
200	600V	- 10	- 20
	480V	- 11	- 21
	600V	- 12	- 22
400	480V	- 13	- 23
	600V	- 14	- 24
	480V	- 15	- 25

NOTES:

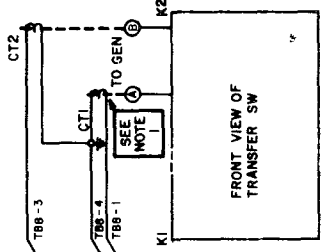
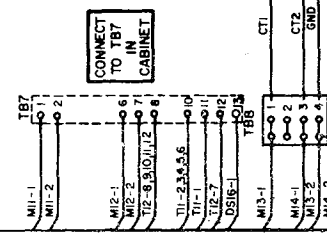
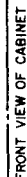
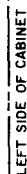
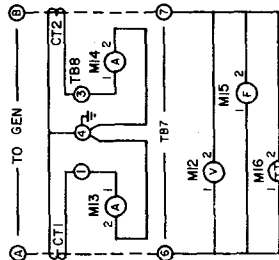
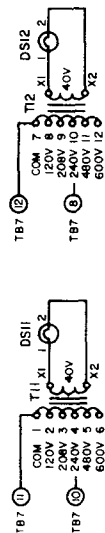
1. NO OF PRI TURNS REQUIRED FOR CORRECT METER READING  
30A 4 TURNS  
60,100A 2 TURNS  
200,400A 1 TURN
2. WIRE TRANSFORMER T13 AS FOLLOWS:  
FOR 480V, CONNECT S11-G TO T13-H2  
FOR 600V, CONNECT S11-G TO T13-H3

[illegible]

METER - LAMP COMBINATION: 09

UNIT	REVISED	DIVISION OF CHINA OPERATIONS		UNIT NUMBER	UNIT DATE
		Ongn			
DATE		4-12-74	10 RMS	1700 V	for CDR
METER LAMP PANEL (WIRING DIAGRAM)					
SERIAL FROM		SERIAL TO		626-0124	
480,600V, 3PH, 4W					
AT [ C ] SPEC B					
AT [ D ]					
AT [ E ]					

## PARTS LIST



THIS INFORMATION IS FOR MANUFACTURERS USE ONLY		
AMPERE	60 Hz	50 Hz
30	- 01	- 05
60	- 02	- 07
100	- 03	- 08
200	- 04	- 09
400	- 05	- 10

## NORMAL & EMERGENCY LAMPS

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)

OVERCRANK L  
VOLTMETER

### AMMETER

## FREQ METER RUNNING TIME

**CURRENT TRANSFORMER**

## NORMAL & EMERGENCY LAMPS

REQ DES	PART NO	QTY	UNIT	DESCRIPTION
CT1,2	302-0851	B	I	TRANSFORMER ASSY-CUR (30)
	302-0852	B	I	TRANSFORMER ASSY-CUR (60)
	302-0853	B	I	TRANSFORMER ASSY-CUR (100)
	302-0854	B	I	TRANSFORMER ASSY-CUR (200)
	302-0855	B	I	TRANSFORMER ASSY-CUR (400)
DS11	302-0145	A	I	LAMP-NORMAL 56V
DS12	302-0147	A	I	LAMP-EMERGENCY 56V
DS13,15	302-0141	A	3	LENS & BEZEL ASSY
DS16	302-0107	A	I	LAMP-OVERCRANK (14V)
M11	302-0807	A	I	AMMETER-BAT CHARGE 0-2 AMP
M12	302-0421	P	I	VOLTMETER 0-300VAC
M13,14	302-0404	B	2	AMMETER-AC 0-35AMP (30)
	302-0406	B	2	AMMETER-AC 0-75AMP (60)
	302-0408	B	2	AMMETER-AC 0-100AMP (100)
	302-0411	P	2	AMMETER-AC 0-200AMP (200)
	302-0605	P	2	AMMETER-AC 0-400AMP (400)
M15	302-0855	B	I	METER-FREQ POINTER 240V 50HZ
	302-0811	B	I	METER-FREQ POINTER 240V 60HZ
M16	302-0469	P	I	METER-RUNNING TIME 240V 50HZ
	302-0466	P	I	METER-RUNNING TIME 240V 60HZ
T11,12	315-0374	C	I	TRANSFORMER ASSY-STEPDOWN
TB8	332-1517	A	I	MARKER STRIP
	338-0884	D	I	HARNES-METER 1PH
	338-0661	C	I	HARNES-LAMPS (NORMAL & EMERGENCY)
	301-3508	C	I	PANEL-METER
	98-2413	D	I	SILKSCREEN-METER PANEL
	98-2445	A	I	LABEL-POWER SENTRY

METER - LAMP COMBINATION: 10

CHARGE AMMETER

OVERCRANK L  
VOLTMETER

## AMMETER

## FREQ METER RUNNING TIME

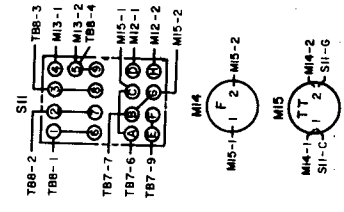
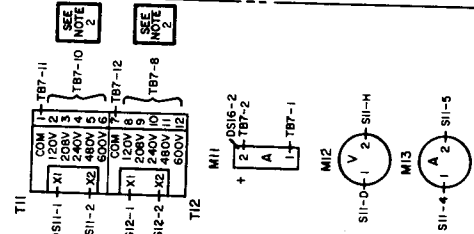
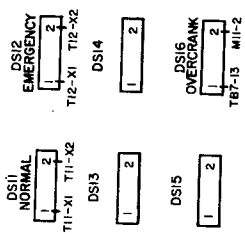
**CURRENT TRANSFORMER**

### NORMAL & EMERGENCY LAMPS

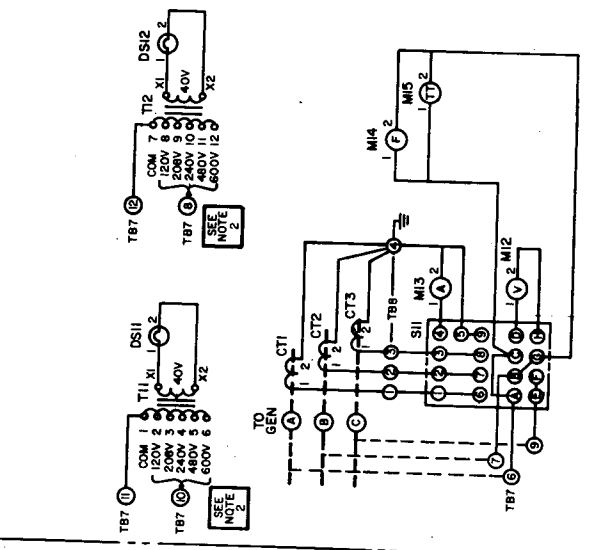
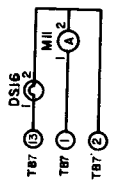
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626-0127

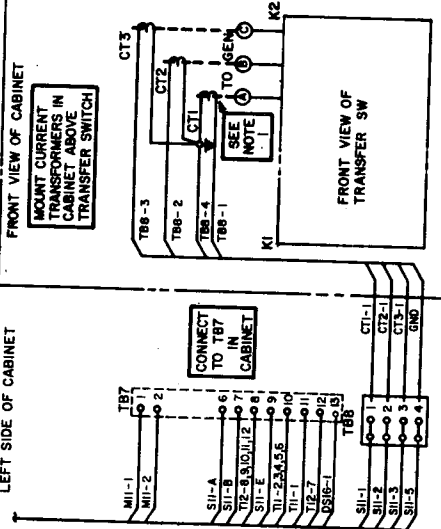
REAR VIEW OF  
METER PANEL



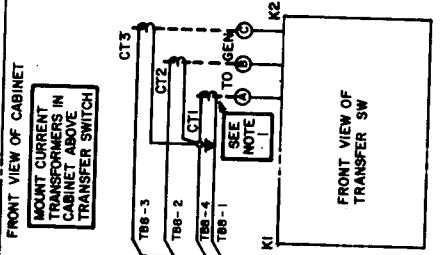
SCHEMATIC



LEFT SIDE OF CABINET



FRONT VIEW OF CABINET



NOTES:  
1. OF PRI TURNS REQUIRED FOR  
CORRECT METER READING  
30A 100A  
60, 100A 2 TURNS  
200, 400A 1 TURN

2. WIRE TRANSFORMER T11 & T12 AS  
FOLLOWS:  
FOR 208V, CONNECT T11-10 TO T11-3  
FOR 240V, CONNECT T11-10 TO T11-4  
FOR 240V, CONNECT T11-8 TO T11-10

THIS INFORMATION IS FOR  
MANUFACTURERS USE ONLY

AMPERE	VOLTAGE	60 Hz	50 Hz
30	208V	-01	-11
30	240V	-02	-12
60	208V	-03	-13
60	240V	-04	-14
100	208V	-05	-15
100	240V	-06	-16
200	208V	-07	-17
200	240V	-08	-18
400	208V	-09	-19
400	240V	-10	-20

REF. DES.	PART NO.	QTY	DESCRIPTION
CT1,2,3	302-0847	B	TRANSFORMER ASSY - CUR
	302-0848	B	TRANSFORMER ASSY - CUR
	302-0849	B	TRANSFORMER ASSY - CUR
	302-0850	B	TRANSFORMER ASSY - CUR
	302-0851	B	TRANSFORMER ASSY - CUR
DS11	322-0146	A	LAMP - NORMAL 56V
DS12	322-0147	A	LAMP - EMERGENCY 56V
DS13	322-0148	A	LAMP - EMERGENCY 56V
DS14	322-0149	A	LAMP - EMERGENCY 56V
DS15	322-0150	A	LAMP - EMERGENCY 56V
DS16	322-0151	A	LAMP - EMERGENCY 56V
M11	302-0807	A	AMMETER - BAT CHARGER 0-2 AMP
M12	302-0421	P	VOLTMETER 0-300VAC
M13	302-0404	B	AMMETER - AC 0-35AMP
	302-0405	B	AMMETER - AC 0-75AMP
	302-0406	B	AMMETER - AC 0-100AMP
	302-0407	B	AMMETER - AC 0-200AMP
	302-0408	B	AMMETER - AC 0-400AMP
M14	302-0894	B	METER - FREQ POINTER 208V 50Hz
	302-0895	B	METER - FREQ POINTER 208V 60Hz
	302-0896	B	METER - FREQ POINTER 240V 50Hz
	302-0897	B	METER - FREQ POINTER 240V 60Hz
M15	302-0469	P	METER - RUNNING TIME 50Hz
	302-0470	P	METER - RUNNING TIME 60Hz
S11	302-0022	B	SWITCH - VOLT & AMMETER
	302-0023	B	SWITCH - VOLT & AMMETER
	302-0024	B	SWITCH - VOLT & AMMETER
	302-0025	B	SWITCH - VOLT & AMMETER
	302-0026	B	SWITCH - VOLT & AMMETER
	302-0027	B	SWITCH - VOLT & AMMETER
	302-0028	B	SWITCH - VOLT & AMMETER
	302-0029	B	SWITCH - VOLT & AMMETER
	302-0030	B	SWITCH - VOLT & AMMETER
	302-0031	B	SWITCH - VOLT & AMMETER
	302-0032	B	SWITCH - VOLT & AMMETER
	302-0033	B	SWITCH - VOLT & AMMETER
	302-0034	B	SWITCH - VOLT & AMMETER
	302-0035	B	SWITCH - VOLT & AMMETER
	302-0036	B	SWITCH - VOLT & AMMETER
	302-0037	B	SWITCH - VOLT & AMMETER
	302-0038	B	SWITCH - VOLT & AMMETER
	302-0039	B	SWITCH - VOLT & AMMETER
	302-0040	B	SWITCH - VOLT & AMMETER
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	302-0042	B	SWITCH - VOLT & AMMETER
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	302-0057	B	SWITCH - VOLT & AMMETER
	302-0058	B	SWITCH - VOLT & AMMETER
	302-0059	B	SWITCH - VOLT & AMMETER
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	302-0061	B	SWITCH - VOLT & AMMETER
	302-0062	B	SWITCH - VOLT & AMMETER
	302-0063	B	SWITCH - VOLT & AMMETER
	302-0064	B	SWITCH - VOLT & AMMETER
	302-0065	B	SWITCH - VOLT & AMMETER
	302-0066	B	SWITCH - VOLT & AMMETER
	302-0067	B	SWITCH - VOLT & AMMETER
	302-0068	B	SWITCH - VOLT & AMMETER
	302-0069	B	SWITCH - VOLT & AMMETER
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	302-0098	B	SWITCH - VOLT & AMMETER
	302-0099	B	SWITCH - VOLT & AMMETER
	302-0100	B	SWITCH - VOLT & AMMETER

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLT METER  
AMMETER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
SELECTOR SW  
NORMAL & EMERGENCY LAMPS

METER - LAMP COMBINATION: 10

626-0127

REF. DES.	PART NO.	QTY	DESCRIPTION
CT1,2,3	302-0847	B	TRANSFORMER ASSY - CUR
	302-0848	B	TRANSFORMER ASSY - CUR
	302-0849	B	TRANSFORMER ASSY - CUR
	302-0850	B	TRANSFORMER ASSY - CUR
	302-0851	B	TRANSFORMER ASSY - CUR
DS11	322-0146	A	LAMP - NORMAL 56V
DS12	322-0147	A	LAMP - EMERGENCY 56V
DS13	322-0148	A	LAMP - EMERGENCY 56V
DS14	322-0149	A	LAMP - EMERGENCY 56V
DS15	322-0150	A	LAMP - EMERGENCY 56V
DS16	322-0151	A	LAMP - EMERGENCY 56V
M11	302-0807	A	AMMETER - BAT CHARGER 0-2 AMP
M12	302-0421	P	VOLTMETER 0-300VAC
M13	302-0404	B	AMMETER - AC 0-35AMP
	302-0405	B	AMMETER - AC 0-75AMP
	302-0406	B	AMMETER - AC 0-100AMP
	302-0407	B	AMMETER - AC 0-200AMP
	302-0408	B	AMMETER - AC 0-400AMP
M14	302-0894	B	METER - FREQ POINTER 208V 50Hz
	302-0895	B	METER - FREQ POINTER 208V 60Hz
	302-0896	B	METER - FREQ POINTER 240V 50Hz
	302-0897	B	METER - FREQ POINTER 240V 60Hz
M15	302-0469	P	METER - RUNNING TIME 50Hz
	302-0470	P	METER - RUNNING TIME 60Hz
S11	302-0022	B	SWITCH - VOLT & AMMETER
	302-0023	B	SWITCH - VOLT & AMMETER
	302-0024	B	SWITCH - VOLT & AMMETER
	302-0025	B	SWITCH - VOLT & AMMETER
	302-0026	B	SWITCH - VOLT & AMMETER
	302-0027	B	SWITCH - VOLT & AMMETER
	302-0028	B	SWITCH - VOLT & AMMETER
	302-0029	B	SWITCH - VOLT & AMMETER
	302-0030	B	SWITCH - VOLT & AMMETER
	302-0031	B	SWITCH - VOLT & AMMETER
	302-0032	B	SWITCH - VOLT & AMMETER
	302-0033	B	SWITCH - VOLT & AMMETER
	302-0034	B	SWITCH - VOLT & AMMETER
	302-0035	B	SWITCH - VOLT & AMMETER
	302-0036	B	SWITCH - VOLT & AMMETER
	302-0037	B	SWITCH - VOLT & AMMETER
	302-0038	B	SWITCH - VOLT & AMMETER
	302-0039	B	SWITCH - VOLT & AMMETER
	302-0040	B	SWITCH - VOLT & AMMETER
	302-0041	B	SWITCH - VOLT & AMMETER
	302-0042	B	SWITCH - VOLT & AMMETER
	302-0043	B	SWITCH - VOLT & AMMETER
	302-0044	B	SWITCH - VOLT & AMMETER
	302-0045	B	SWITCH - VOLT & AMMETER
	302-0046	B	SWITCH - VOLT & AMMETER
	302-0047	B	SWITCH - VOLT & AMMETER
	302-0048	B	SWITCH - VOLT & AMMETER
	302-0049	B	SWITCH - VOLT & AMMETER
	302-0050	B	SWITCH - VOLT & AMMETER
	302-0051	B	SWITCH - VOLT & AMMETER
	302-0052	B	SWITCH - VOLT & AMMETER
	302-0053	B	SWITCH - VOLT & AMMETER
	302-0054	B	SWITCH - VOLT & AMMETER
	302-0055	B	SWITCH - VOLT & AMMETER
	302-0056	B	SWITCH - VOLT & AMMETER
	302-0057	B	SWITCH - VOLT & AMMETER
	302-0058	B	SWITCH - VOLT & AMMETER
	302-0059	B	SWITCH - VOLT & AMMETER
	302-0060	B	SWITCH - VOLT & AMMETER
	302-0061	B	SWITCH - VOLT & AMMETER
	302-0062	B	SWITCH - VOLT & AMMETER
	302-0063	B	SWITCH - VOLT & AMMETER
	302-0064	B	SWITCH - VOLT & AMMETER
	302-0065	B	SWITCH - VOLT & AMMETER
	302-00		

REF. DES.	PART NO.	QTY.	DESCRIPTION
CTI-2,3	302-0847	B	TRANSFORMER ASSY. CIR
	302-0848	B	TRANSFORMER ASSY. CIR
	302-0849	B	TRANSFORMER ASSY. CIR
	302-0850	B	TRANSFORMER ASSY. CIR
	302-0851	B	TRANSFORMER ASSY. CIR
	302-0852	B	TRANSFORMER ASSY. CIR
DSII	302-0146	A	LAMP-NORMAL 36V
DSI2	302-0147	A	LAMP-EMERGENCY 36V
DSI3-15	302-0141	A	3 LENS & BEZEL ASSY
DSI6	302-0107	A	LAMP-OVERCRANK (4V)
MI1	302-0807	A	AMMETER-BAT CHARGER 0-2 AMP
MI2	302-0422	P	VOLTMETER 0-600V (600V)
MI3	302-0423	P	VOLTMETER 0-750V (600V)
	302-0404	B	AMMETER-AC 0-35AMP (30)
	302-0406	B	AMMETER-AC 0-75AMP (60)
	302-0408	B	AMMETER-AC 0-100AMP (100)
	302-0411	P	AMMETER-AC 0-200AMP (200)
	302-0605	B	AMMETER-AC 0-400AMP (400)
MI4	302-0809	B	METER-FREQ POINTER 120V 50HZ
	302-0893	B	METER-FREQ POINTER 120V 60HZ
MI5	302-0468	P	METER-RUNNING TIME 120V 50HZ
	302-0465	P	METER-RUNNING TIME 120V 60HZ
SII	308-0022	B	1 SWITCH-VOLT & AMMETER
	332-0592	A	3 JUMPER
	98-2443	A	1 SILKSCREEN-SELECTOR SWITCH
TII,12	315-0374	C	1 TRANSFORMER ASSY-STEPPDOWN
TI3	315-0377	A	1 TRANSFORMER-STEPPDOWN
TB8	332-1517	A	1 MARKER STRIP
	338-0887	D	1 HARNESS-METER 3 PH
	338-0561	C	1 HARNESS-LAMPS (NORMAL & EMERGENCY)
	301-3507	C	1 PANEL-METER
	98-2412	D	1 SILKSCREEN-METER PANEL
	98-2445	A	1 LABEL-POWER ENTRY

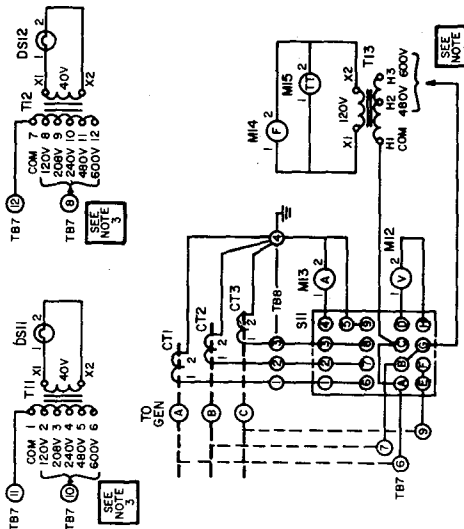
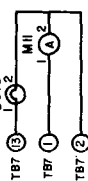
626-0128

METER - LAMP COMBINATION: 10

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
AMMETER  
FREQ METER  
RUNNING TIME METER  
SELECTOR SW  
CURRENT TRANSFORMER  
NORMAL & EMERGENCY LAMPS

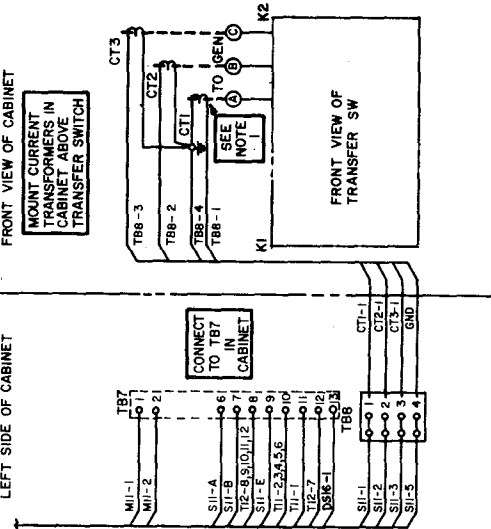
- NOTES:  
OF PRI. TURNS REQUIRED FOR  
1. CORRECT METER READING  
30A 4 TURNS  
60, 100A 2 TURNS  
200, 400A 1 TURN
2. WIRE TRANSFORMER T13 AS FOLLOWS:  
FOR 480V, CONNECT SII-G TO T13-H2  
FOR 600V, CONNECT SII-G TO T13-H3
3. WIRE TRANSFORMER TII & T12 AS FOLLOWS:  
FOR 480V, CONNECT TB7-10 TO TII-5  
FOR 600V, CONNECT TB7-10 TO TII-6  
FOR 480V, CONNECT TB7-8 TO T12-12  
FOR 600V, CONNECT TB7-8 TO T12-12

SCHEMATIC



FRONT VIEW OF CABINET

LEFT SIDE OF CABINET



THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

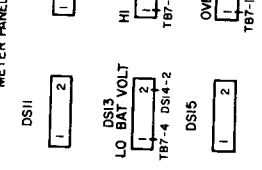
AMPERE	VOLTAGE	60 Hz	50 Hz
30	480V	-01	-11
60	600V	-02	-12
100	480V	-03	-13
200	600V	-04	-14
400	480V	-05	-15
	600V	-06	-16
	480V	-07	-17
	600V	-08	-18
	480V	-09	-19
	600V	-10	-20

REV. 1	DATE	REV. 2	DATE
REV. 3	DATE	REV. 4	DATE
REV. 5	DATE	REV. 6	DATE
REV. 7	DATE	REV. 8	DATE
REV. 9	DATE	REV. 10	DATE
REV. 11	DATE	REV. 12	DATE
REV. 13	DATE	REV. 14	DATE
REV. 15	DATE	REV. 16	DATE
REV. 17	DATE	REV. 18	DATE
REV. 19	DATE	REV. 20	DATE
REV. 21	DATE	REV. 22	DATE
REV. 23	DATE	REV. 24	DATE
REV. 25	DATE	REV. 26	DATE
REV. 27	DATE	REV. 28	DATE
REV. 29	DATE	REV. 30	DATE
REV. 31	DATE	REV. 32	DATE
REV. 33	DATE	REV. 34	DATE
REV. 35	DATE	REV. 36	DATE
REV. 37	DATE	REV. 38	DATE
REV. 39	DATE	REV. 40	DATE
REV. 41	DATE	REV. 42	DATE
REV. 43	DATE	REV. 44	DATE
REV. 45	DATE	REV. 46	DATE
REV. 47	DATE	REV. 48	DATE
REV. 49	DATE	REV. 50	DATE
REV. 51	DATE	REV. 52	DATE
REV. 53	DATE	REV. 54	DATE
REV. 55	DATE	REV. 56	DATE
REV. 57	DATE	REV. 58	DATE
REV. 59	DATE	REV. 60	DATE
REV. 61	DATE	REV. 62	DATE
REV. 63	DATE	REV. 64	DATE
REV. 65	DATE	REV. 66	DATE
REV. 67	DATE	REV. 68	DATE
REV. 69	DATE	REV. 70	DATE
REV. 71	DATE	REV. 72	DATE
REV. 73	DATE	REV. 74	DATE
REV. 75	DATE	REV. 76	DATE
REV. 77	DATE	REV. 78	DATE
REV. 79	DATE	REV. 80	DATE
REV. 81	DATE	REV. 82	DATE
REV. 83	DATE	REV. 84	DATE
REV. 85	DATE	REV. 86	DATE
REV. 87	DATE	REV. 88	DATE
REV. 89	DATE	REV. 90	DATE
REV. 91	DATE	REV. 92	DATE
REV. 93	DATE	REV. 94	DATE
REV. 95	DATE	REV. 96	DATE
REV. 97	DATE	REV. 98	DATE
REV. 99	DATE	REV. 100	DATE

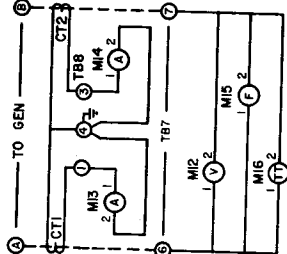
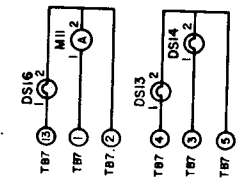
626-0128

626-0130

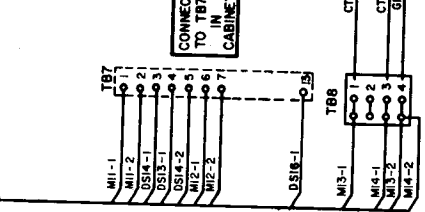
REAR VIEW OF  
METER PANEL



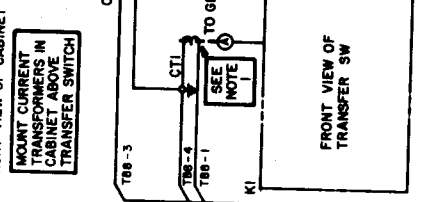
SCHEMATIC



LEFT SIDE OF CABINET



FRONT VIEW OF CABINET



NOTES:  
NO. OF PRI. TURNS REQUIRED FOR  
1. CORRECT METER READING  
30A 4 TURNS  
60,100A 2 TURNS  
200,400A 1 TURN

PARTS LIST

REF. DES.	PART NO.	QTY.	DESCRIPTION
CT1,2	302-0851	B	TRANSFORMER ASSY - CUR
	302-0852	B	TRANSFORMER ASSY - CUR
	302-0853	B	TRANSFORMER ASSY - CUR
	302-0854	B	TRANSFORMER ASSY - CUR
	302-0855	B	TRANSFORMER ASSY - CUR
DS11,2	322-0141	A	LENS & BEZEL ASSY
DS13	322-0142	A	LAMP - LO BAT VOLT (14V) (AT D & E)
DS14	322-0143	A	LAMP - LO BAT VOLT (28V) (AT C)
	322-0144	A	LAMP - HI BAT VOLT (14V) (AT D & E)
	322-0145	A	LAMP - HI BAT VOLT (28V) (AT C)
DS16	322-0107	A	LAMP - OVERCRANK (14V)
M11	302-0807	A	AMMETER - BAT CHARGER 0-2 AMP
M12	302-0421	P	VOLTMETER 0-300VAC
M13,14	302-0404	B	2 AMMETER - AC 0-35AMP (30)
	302-0405	B	2 AMMETER - AC 0-75AMP (60)
	302-0408	B	2 AMMETER - AC 0-100AMP (100)
	302-0411	P	2 AMMETER - AC 0-200AMP (200)
	302-0605	P	2 AMMETER - AC 0-400AMP (400)
M15	302-0895	B	METER - FREQ POINTER 240V 50HZ
	302-0811	B	METER - FREQ POINTER 240V 60HZ
M16	302-0469	P	METER - RUNNING TIME 208/240V 50HZ
	302-0468	P	METER - RUNNING TIME 208/240V 60HZ
T88	332-1517	A	MARKER STRIP
	336-0884	D	HARNES - METER 1PH
	338-0659	B	HARNES - LAMPS (BAT VOLTS)
	301-3508	C	PANEL - METER
	98-2415	D	SILKSCREEN - METER PANEL
	98-2445	A	LABEL - POWER SENTRY

METER - LAMP COMBINATION: II

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)

VOLTMETER

AMMETER

FREQ METER

RUNNING TIME METER

CURRENT TRANSFORMER

BATTERY VOLTAGE LAMPS

THIS INFORMATION IS FOR  
MANUFACTURERS USE ONLY

AMPERE	AT D & E 60 Hz	AT C 60 Hz	AT D & E 50 Hz	AT C 50 Hz
30	-01	-06	-11	-16
60	-02	-07	-12	-17
100	-03	-08	-13	-18
200	-04	-09	-14	-19
400	-05	-10	-15	-20

626-0130

4-12-74

CDR

METER LAMP PANEL  
(WIRING DIAGRAM)

240V, 2W, 120/240V, 3W, 1PH, 50/60 Hz

626-0130

### 626-0131

REAR VIEW OF  
METER PANEL

### 626-0131

FRONT VIEW OF  
METER PANEL

### 626-0131

LEFT SIDE OF CABINET

### 626-0131

RIGHT SIDE OF CABINET

### 626-0131

FRONT VIEW OF  
TRANSFER SW

### 626-0131

REAR VIEW OF  
TRANSFER SW

### 626-0131

SCHEMATIC

### 626-0131

FRONT VIEW OF  
TRANSFER SW

### 626-0131

REAR VIEW OF  
TRANSFER SW

### 626-0131

FRONT VIEW OF  
TRANSFER SW

### 626-0131

REAR VIEW OF  
TRANSFER SW

### 626-0131

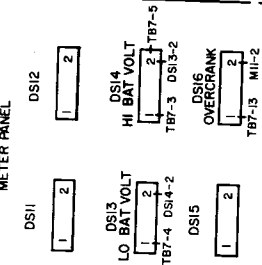
FRONT VIEW OF  
TRANSFER SW

### 626-0131

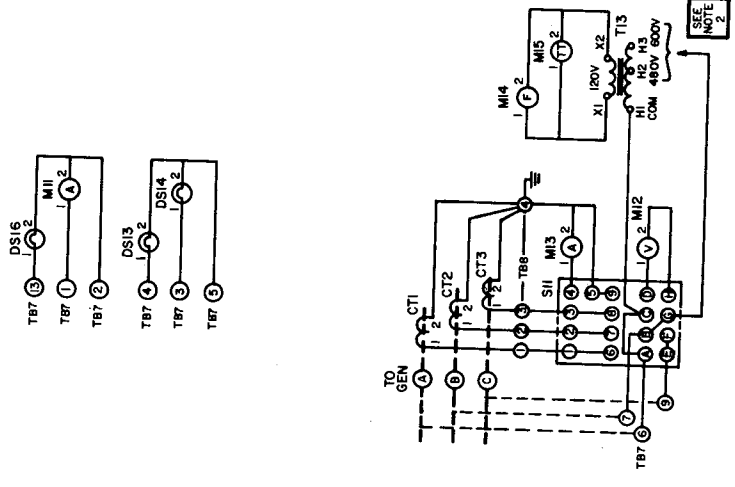
REAR VIEW OF  
TRANSFER SW

626-0132

REAR VIEW OF  
METER PANEL

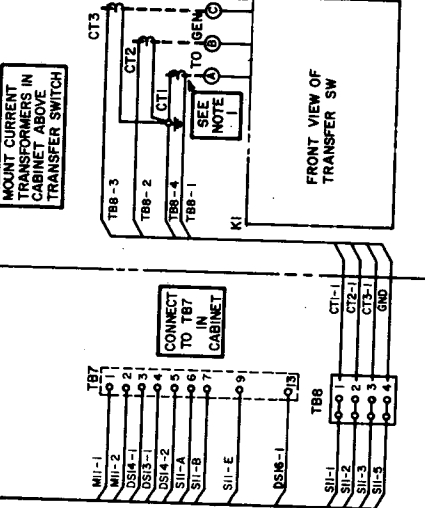


SCHEMATIC

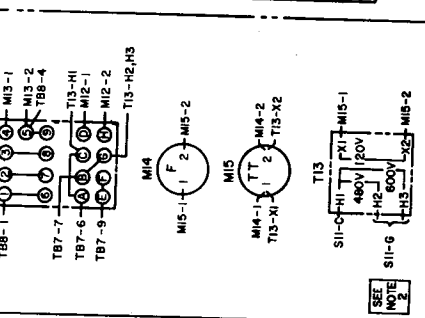


LEFT SIDE OF CABINET

FRONT VIEW OF CABINET



FRONT VIEW OF TRANSFER SW



NOTES:  
1. NO. OF PRI TURNS REQUIRED FOR  
CORRECT METER READING  
30A 100A 2 TURNS  
60, 100A 2 TURNS  
200, 400A 1 TURN  
2. WIDE TRANSFORMER T13 AS FOLLOWS:  
FOR 480V, CONNECT SI1-G TO T13-H2  
FOR 600V, CONNECT SI1-G TO T13-H1

PARTS LIST

REF. DES.	PART NO.	QTY	DESCRIPTION
CT1,2,3	302-0847	B	TRANSFORMER ASST-CUR
	302-0848	B	TRANSFORMER ASST-CUR
	302-0849	B	TRANSFORMER ASST-CUR
	302-0850	B	TRANSFORMER ASST-CUR
	302-0851	B	TRANSFORMER ASST-CUR
DS11,2,3	322-0141	A	LENS & BEZEL ASSY
DS13	322-0114	A	LAMP - LO BAT VOLT (14V) (AT D & E)
DS14	322-0115	A	LAMP - LO BAT VOLT (28V) (AT C)
	322-0117	A	LAMP - HI BAT VOLT (4V) (AT D & E)
	322-0127	A	LAMP - HI BAT VOLT (28V) (AT C)
DS16	322-0107	A	LAMP - OVERCRANK (14V)
M11	302-0807	A	AMMETER - BAT CHARGER 0-2 AMP
M12	302-0422	P	VOLTMETER 0-600V (480V)
M13	302-0423	P	VOLTMETER 0-750V (600V)
	302-0424	P	AMMETER - AC 0-35AMP (30V)
	302-0425	P	AMMETER - AC 0-75AMP (60V)
	302-0426	P	AMMETER - AC 0-100AMP (100V)
	302-0427	P	AMMETER - AC 0-200AMP (200V)
	302-0428	P	AMMETER - AC 0-400AMP (400V)
M14	302-0855	B	METER - FREQ POINTER 120V 50HZ
	302-0856	B	METER - FREQ POINTER 120V 60HZ
M15	302-0468	P	METER - RUNNING TIME 120V 50HZ
	302-0469	P	METER - RUNNING TIME 120V 60HZ
S11	308-0022	B	SWITCH - VOLT & AMMETER
	322-0592	A	JUMPER
	98-2443	A	SILKSCREEN - SELECTOR SWITCH
T13	315-0377	A	TRANSFORMER - STEPDOWN
TB8	332-1517	A	MARKER STRIP
	338-0887	D	HARNES - METER 3 PH
	338-0659	B	HARNES - LAMPS (BAT VOLTS)
	301-3507	C	PANEL - METER
	98-2412	D	SILKSCREEN - METER PANEL
	98-2445	A	LABEL - POWER ENTRY

626-0132

METER - LAMP COMBINATION: II

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
AMMETER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
SELECTOR SW  
BATTERY VOLTAGE LAMPS

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

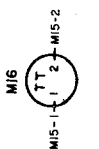
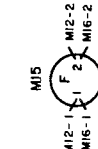
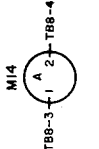
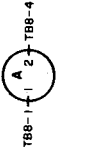
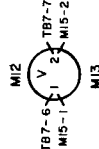
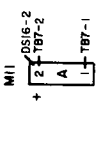
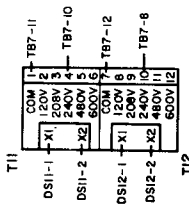
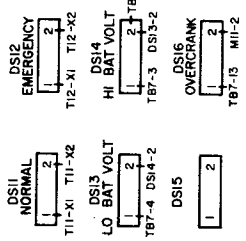
AMPERE	VOLTAGE	AT D & E 60 Hz	AT C 60 Hz	AT D & E 50 Hz	AT C 50 Hz
30	480V	-01	-11	-21	-31
	600V	-02	-12	-22	-32
60	480V	-03	-13	-23	-33
	600V	-04	-14	-24	-34
100	480V	-05	-15	-25	-35
	600V	-06	-16	-26	-36
200	480V	-07	-17	-27	-37
	600V	-08	-18	-28	-38
400	480V	-09	-19	-29	-39
	600V	-10	-20	-30	-40

DATE 4-11-74  
RMS  
METER LAMP PANEL  
(WIRING DIAGRAM)  
626-0132

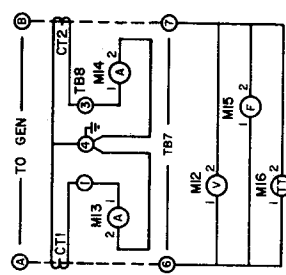
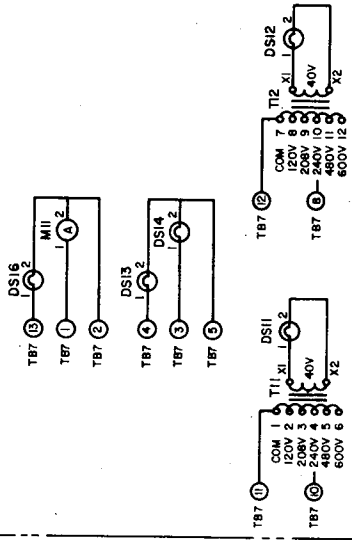


626-0134

REAR VIEW OF  
METER PANEL



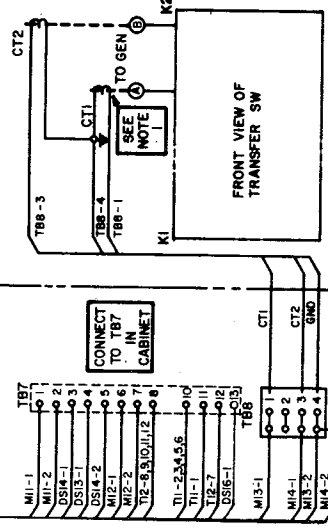
SCHEMATIC



LEFT SIDE OF CABINET

FRONT VIEW OF CABINET

MOUNT CURRENT  
TRANSFORMERS IN  
CABINET ABOVE  
TRANSFER SWITCH



THIS INFORMATION IS FOR  
MANUFACTURERS USE ONLY

AMPERE	AT D & E 60 Hz	AT C 60 Hz	AT D & E 50 Hz	AT C 50 Hz
30	-01	-06	-11	-16
60	-02	-07	-12	-17
100	-03	-08	-13	-18
200	-04	-09	-14	-19
400	-05	-10	-15	-20

DATE 4-11-74  
RMS  
METER LAMP PANEL  
(WIRING DIAGRAM)

240V, 2W, 120/240V, 3W  
1PH., 50/60Hz

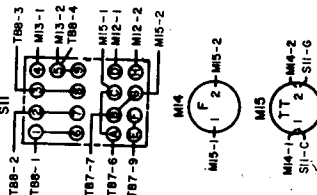
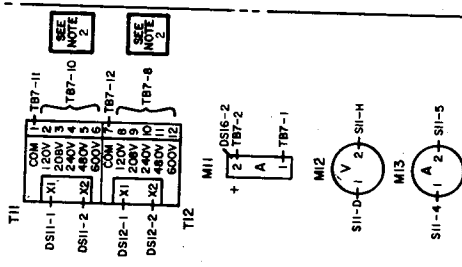
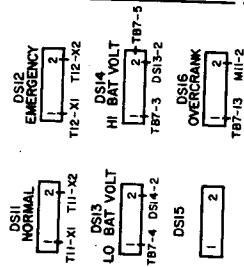
626-0134

NOTES:  
1. NO. OF PRI. TURNS REQUIRED FOR  
I. CORRECT METER READING  
30A 4 TURNS  
60A 2 TURNS  
200, 400A 1 TURN

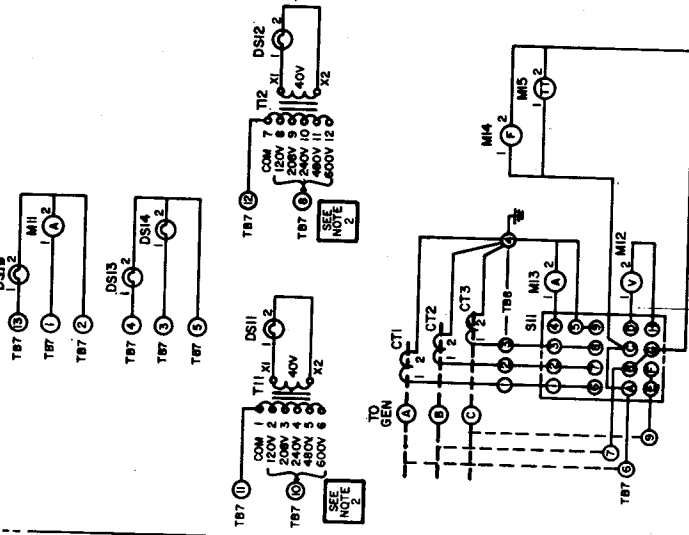
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626-0135

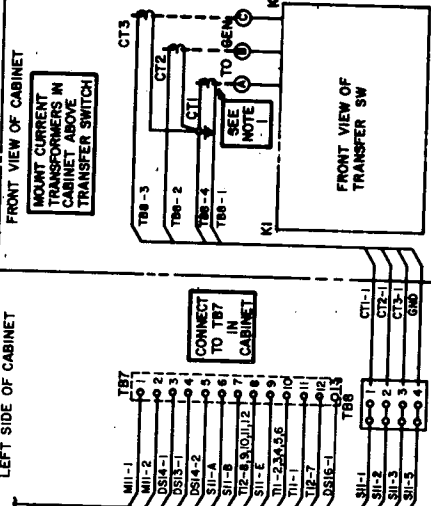
REAR VIEW OF  
METER PANEL



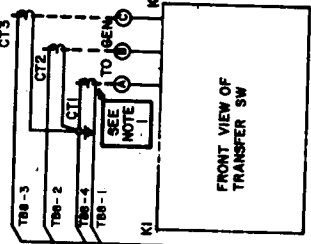
SCHEMATIC



LEFT SIDE OF CABINET



FRONT VIEW OF CABINET  
MOUNT CURRENT  
TRANSFORMERS IN  
CABINET ABOVE  
TRANSFER SWITCH



NOTES:  
1. CORRECT METERING FOR  
30A 4 TURNS  
60,100A 2 TURNS  
200,400A 1 TURN  
2. WIRE TRANSFORMER T11 & T12 AS  
FOLLOWS:  
FOR 208V, CONNECT T87-10 TO T11-3  
FOR 240V, CONNECT T87-10 TO T11-4  
FOR 240V, CONNECT T87-8 TO T12-10

REF. DES.	PART NO.	QTY	DESCRIPTION
CT1,2,3	302-0847	3	TRANSFORMER ASSY-CUR
	302-0848	3	TRANSFORMER ASSY-CUR
	302-0849	3	TRANSFORMER ASSY-CUR
	302-0850	3	TRANSFORMER ASSY-CUR
	302-0851	3	TRANSFORMER ASSY-CUR
DS11	322-0146	1	LAMP-NORMAL 56V
DS12	322-0147	1	LAMP-EMERGENCY 56V
DS13	322-0148	1	LAMP-LO BAT VOLT (14V) (AT D & E)
DS14	322-0149	1	LAMP-HI BAT VOLT (28V) (AT C)
DS15	322-0150	1	LAMP-HI BAT VOLT (14V) (AT D & E)
DS16	322-0151	1	LAMP-RECHARGE (14V)
DS17	322-0152	1	LAMP-RECHARGE (14V)
DS18	322-0153	1	LAMP-RECHARGE (14V)
DS19	322-0154	1	LAMP-RECHARGE (14V)
DS20	322-0155	1	LAMP-RECHARGE (14V)
DS21	322-0156	1	LAMP-RECHARGE (14V)
DS22	322-0157	1	LAMP-RECHARGE (14V)
DS23	322-0158	1	LAMP-RECHARGE (14V)
DS24	322-0159	1	LAMP-RECHARGE (14V)
DS25	322-0160	1	LAMP-RECHARGE (14V)
DS26	322-0161	1	LAMP-RECHARGE (14V)
DS27	322-0162	1	LAMP-RECHARGE (14V)
DS28	322-0163	1	LAMP-RECHARGE (14V)
DS29	322-0164	1	LAMP-RECHARGE (14V)
DS30	322-0165	1	LAMP-RECHARGE (14V)
DS31	322-0166	1	LAMP-RECHARGE (14V)
DS32	322-0167	1	LAMP-RECHARGE (14V)
DS33	322-0168	1	LAMP-RECHARGE (14V)
DS34	322-0169	1	LAMP-RECHARGE (14V)
DS35	322-0170	1	LAMP-RECHARGE (14V)
DS36	322-0171	1	LAMP-RECHARGE (14V)
DS37	322-0172	1	LAMP-RECHARGE (14V)
DS38	322-0173	1	LAMP-RECHARGE (14V)
DS39	322-0174	1	LAMP-RECHARGE (14V)
DS40	322-0175	1	LAMP-RECHARGE (14V)
DS41	322-0176	1	LAMP-RECHARGE (14V)
DS42	322-0177	1	LAMP-RECHARGE (14V)
DS43	322-0178	1	LAMP-RECHARGE (14V)
DS44	322-0179	1	LAMP-RECHARGE (14V)
DS45	322-0180	1	LAMP-RECHARGE (14V)
DS46	322-0181	1	LAMP-RECHARGE (14V)
DS47	322-0182	1	LAMP-RECHARGE (14V)
DS48	322-0183	1	LAMP-RECHARGE (14V)
DS49	322-0184	1	LAMP-RECHARGE (14V)
DS50	322-0185	1	LAMP-RECHARGE (14V)
DS51	322-0186	1	LAMP-RECHARGE (14V)
DS52	322-0187	1	LAMP-RECHARGE (14V)
DS53	322-0188	1	LAMP-RECHARGE (14V)
DS54	322-0189	1	LAMP-RECHARGE (14V)
DS55	322-0190	1	LAMP-RECHARGE (14V)
DS56	322-0191	1	LAMP-RECHARGE (14V)
DS57	322-0192	1	LAMP-RECHARGE (14V)
DS58	322-0193	1	LAMP-RECHARGE (14V)
DS59	322-0194	1	LAMP-RECHARGE (14V)
DS60	322-0195	1	LAMP-RECHARGE (14V)
DS61	322-0196	1	LAMP-RECHARGE (14V)
DS62	322-0197	1	LAMP-RECHARGE (14V)
DS63	322-0198	1	LAMP-RECHARGE (14V)
DS64	322-0199	1	LAMP-RECHARGE (14V)
DS65	322-0200	1	LAMP-RECHARGE (14V)
DS66	322-0201	1	LAMP-RECHARGE (14V)
DS67	322-0202	1	LAMP-RECHARGE (14V)
DS68	322-0203	1	LAMP-RECHARGE (14V)
DS69	322-0204	1	LAMP-RECHARGE (14V)
DS70	322-0205	1	LAMP-RECHARGE (14V)
DS71	322-0206	1	LAMP-RECHARGE (14V)
DS72	322-0207	1	LAMP-RECHARGE (14V)
DS73	322-0208	1	LAMP-RECHARGE (14V)
DS74	322-0209	1	LAMP-RECHARGE (14V)
DS75	322-0210	1	LAMP-RECHARGE (14V)
DS76	322-0211	1	LAMP-RECHARGE (14V)
DS77	322-0212	1	LAMP-RECHARGE (14V)
DS78	322-0213	1	LAMP-RECHARGE (14V)
DS79	322-0214	1	LAMP-RECHARGE (14V)
DS80	322-0215	1	LAMP-RECHARGE (14V)
DS81	322-0216	1	LAMP-RECHARGE (14V)
DS82	322-0217	1	LAMP-RECHARGE (14V)
DS83	322-0218	1	LAMP-RECHARGE (14V)
DS84	322-0219	1	LAMP-RECHARGE (14V)
DS85	322-0220	1	LAMP-RECHARGE (14V)
DS86	322-0221	1	LAMP-RECHARGE (14V)
DS87	322-0222	1	LAMP-RECHARGE (14V)
DS88	322-0223	1	LAMP-RECHARGE (14V)
DS89	322-0224	1	LAMP-RECHARGE (14V)
DS90	322-0225	1	LAMP-RECHARGE (14V)
DS91	322-0226	1	LAMP-RECHARGE (14V)
DS92	322-0227	1	LAMP-RECHARGE (14V)
DS93	322-0228	1	LAMP-RECHARGE (14V)
DS94	322-0229	1	LAMP-RECHARGE (14V)
DS95	322-0230	1	LAMP-RECHARGE (14V)
DS96	322-0231	1	LAMP-RECHARGE (14V)
DS97	322-0232	1	LAMP-RECHARGE (14V)
DS98	322-0233	1	LAMP-RECHARGE (14V)
DS99	322-0234	1	LAMP-RECHARGE (14V)
DS100	322-0235	1	LAMP-RECHARGE (14V)

METER-LAMP COMBINATION: 12

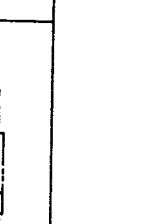
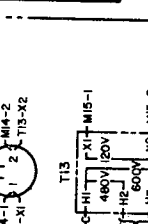
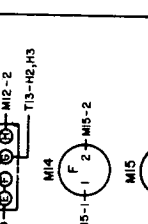
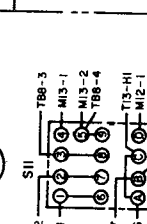
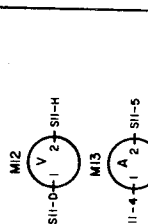
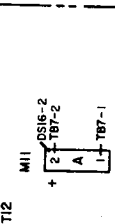
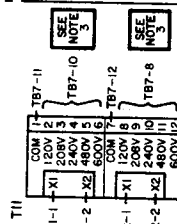
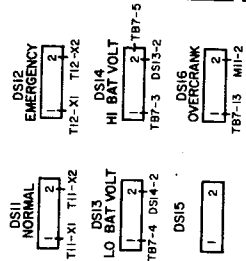
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLT METER  
FREQ METER  
CURRENT TIME METER  
CURRENT TRANSFORMER  
SELECTOR SWITCH  
NORMAL & EMERGENCY LAMPS  
BATTERY VOLTAGE LAMPS

AMPERE	VOLTAGE	AT D & E 60 Hz	AT C 60 Hz	AT D & E 50 Hz	AT C 50 Hz
30	208V	-01	-11	-21	-31
	240V	-02	-12	-22	-32
60	208V	-03	-13	-23	-33
	240V	-04	-14	-24	-34
100	208V	-05	-15	-25	-35
	240V	-06	-16	-26	-36
200	208V	-07	-17	-27	-37
	240V	-08	-18	-28	-38
400	208V	-09	-19	-29	-39
	240V	-10	-20	-30	-40

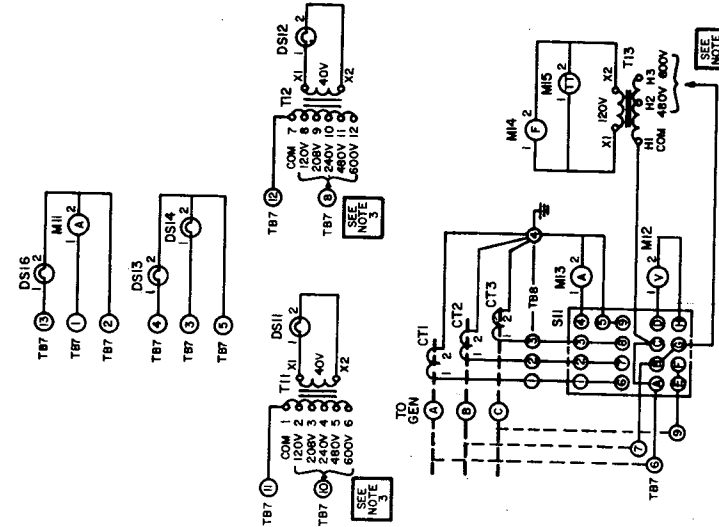
THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

REV	DATE	BY	CHKD
1	4-11-74	RMS	374
METER LAMP PANEL (WIRING DIAGRAM)			
626-0135			

626-0136

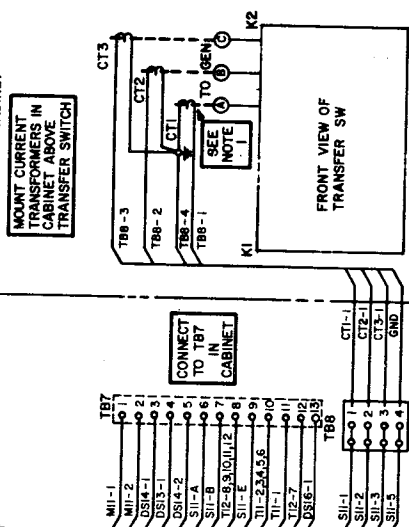
REAR VIEW OF  
METER PANEL

SCHEMATIC



LEFT SIDE OF CABINET

FRONT VIEW OF CABINET



METER - LAMP COMBINATION: 12  
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLT METER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
SELECTOR TRANSFORMER  
NORMAL & EMERGENCY LAMPS  
BATTERY VOLTAGE LAMPS

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY									
AMPERE	VOLTAGE	AT D & E		AT C		AT D & E		AT C	
		60 Hz		50 Hz		60 Hz		50 Hz	
30	480V	-01	-11	-12	-21	-31	-41	-51	-61
60	480V	-02	-12	-22	-32	-42	-52	-62	-72
100	480V	-03	-13	-23	-33	-43	-53	-63	-73
200	480V	-04	-14	-24	-34	-44	-54	-64	-74
400	480V	-05	-15	-25	-35	-45	-55	-65	-75
	600V	-06	-16	-26	-36	-46	-56	-66	-76
	600V	-07	-17	-27	-37	-47	-57	-67	-77
	600V	-08	-18	-28	-38	-48	-58	-68	-78
	480V	-09	-19	-29	-39	-49	-59	-69	-79
	600V	-10	-20	-30	-40	-50	-60	-70	-80

LET	REV	DATE
1	1	1-1-74
DIVISION OF AIR CORP		
METER LAMP PANEL		
WIRING DIAGRAM		
SPEC B		
480, 600V, 3 PH, 50/60 Hz		
626-0136		

**626-0161** REV. C

REAR VIEW OF METER PANEL

DS11  
1 2

DS12  
1 2

DS13  
1 2

DS14  
1 2

DS15  
1 2

DS16 OVERCRANK  
1 2  
TB7-13 MI1-2

SCHEMATIC

NOTES:

1. USE RESISTOR WITH RUNNING TIME METER ON 600V ONLY

LEFT SIDE OF CABINET

RIGHT SIDE OF CABINET

626-0161

REF. DES.	PART NO.	QTY	DESCRIPTION
DS11-13	322-0141	A 5	LENS & BEZEL ASSY
DS16	322-0107	A 1	LAMP - OVERCRANK (14V)
MI1	302-0807	A 1	AMMETER - BAT CHARGER 0-2 AMP
MI2	302-0465	P 1	METER - RUNNING TIME (120V/60HZ)
	302-0466	P 1	METER - RUNNING TIME (240V/60HZ)
	302-0467	P 1	METER - RUNNING TIME (480V/60HZ)
	304-0536	A 1	RESISTOR, 5000Ω, 50W (600V/60HZ)
	302-0468	P 1	METER - RUNNING TIME (120V/150HZ)
	302-0469	P 1	METER - RUNNING TIME (240V/150HZ)
	302-0470	P 1	METER - RUNNING TIME (480V/150HZ)
339-0883	C 1		HARNES - METER
301-3505	C 1		PANEL - METER
98-2413	D 1		SILKSCREEN - METER PANEL
98-2445	A 1		LABEL - POWER SENTRY

METER - LAMP COMBINATION 13

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
RUNNING TIME METER

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

HERTZ	VOLTAGE	DASH NO
60	120V	-01
60	240V	-02
60	480V	-03
60	600V	-04
50	120V	-05
50	240V	-06
50	480V	-07

626-0161

REV. C

DATE 7-18-74

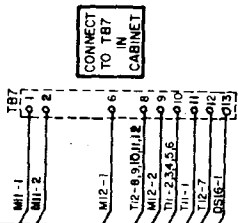
BY DFD

COR

METER LAMP PANEL (WIRING DIAGRAM)

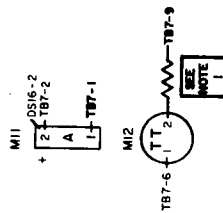
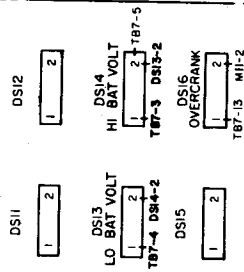
120, 240, 480, 600V

1 B 3PH 50/60HZ

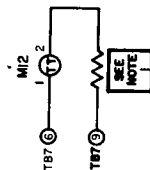
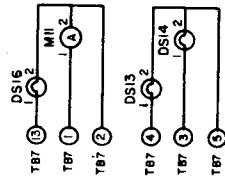
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626-0163

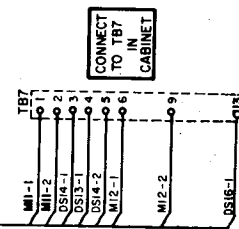
REAR VIEW OF  
METER PANEL



SCHEMATIC



LEFT SIDE OF CABINET



REF. DES. PART NO. QTY. DESCRIPTION

REF. DES.	PART NO.	QTY.	DESCRIPTION
DS11, DS12	322-0141	3	LENS & BEZEL ASSY
DS13	322-0114	A	LAMP - LO BAT VOLT (14V) (AT D & E)
DS14	322-0126	A	LAMP - LO BAT VOLT (28V) (AT C)
DS15	322-0115	A	LAMP - HI BAT VOLT (14V) (AT D & E)
DS16	322-0127	A	LAMP - HI BAT VOLT (28V) (AT C)
DS17	322-0107	A	LAMP - OVERCRANK (14V)
M11	302-0807	A	AMMETER - BAT CHARGER 0-2 AMP
M12	302-0465	P	METER - RUNNING TIME (120V) (60HZ)
	302-0466	P	METER - RUNNING TIME (240V) (60HZ)
	302-0467	P	METER - RUNNING TIME (480V) (60HZ)
	304-0436	A	RESISTOR, 90001 50W (600V) (60HZ)
	302-0468	P	METER - RUNNING TIME (120V) (50HZ)
	302-0469	P	METER - RUNNING TIME (240V) (50HZ)
	302-0470	P	METER - RUNNING TIME (480V) (50HZ)
	338-0863	C	HARNES - METER
	338-0659	B	HARNES - LAMPS (BAT VOLTS)
	301-3505	C	PANEL - METER
	98-2413	D	SILKSCREEN - METER PANEL
	98-2445	A	LABEL - POWER SENTRY

626-0163

METER - LAMP COMBINATION IS

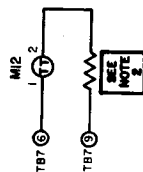
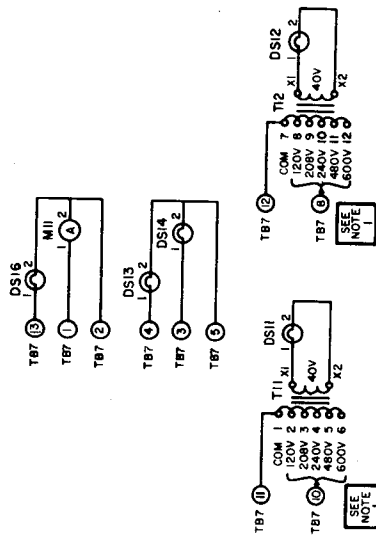
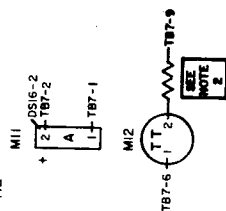
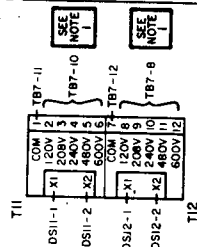
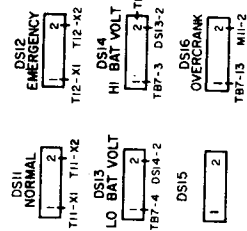
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
RUNNING TIME METER

BATTERY VOLTAGE LAMPS

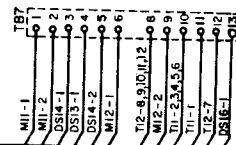
HERTZ	VOLTAGE	DASH NO
60	120V	-01
60	240V	-02
60	480V	-03
60	600V	-04
50	120V	-05
50	240V	-06
50	480V	-07

THIS INFORMATION IS FOR  
MANUFACTURERS USE ONLY

REV. 2	DATE	REV. 3	DATE
1	2-18-74	1	2-18-74
ONAN			
DIVISION OF OMC CORPORATION			
MINNEAPOLIS, MINNESOTA			
DATE	BY	CHKD	DATE
2-18-74	WJD	WJD	2-18-74
METER LAMP PANEL			
(WIRING DIAGRAM)			
TEMP. PRESS	TEMP. 25	TEMP. 25	TEMP. 25
120, 240, 480, 600V	50/60Hz	50/60Hz	50/60Hz
1 & 3PH	50/60Hz	50/60Hz	50/60Hz
626-0163			C

REAR VIEW OF  
METER PANEL

LEFT SIDE OF CABINET



THIS INFORMATION IS FOR  
MANUFACTURERS USE ONLY

HERTZ	VOLTAGE	DASH NO
60	120V	-01
60	240V	-02
60	480V	-03
60	600V	-04
50	120V	-05
50	240V	-06
50	480V	-07

NOTE:  
1. WIRE TRANSFORMER T11 & T12 AS  
FOLLOWS

FOR 120V, CONNECT	TB7-10 TO T11-2
	TB7-8 TO T12-8
FOR 240V, CONNECT	TB7-10 TO T11-4
	TB7-8 TO T12-10

2. USE RESISTOR WITH RUNNING TIME METER ON 600V ONLY

REF. DES.	PART NO.	PARTS LIST		DESCRIPTION
		QTY	UNIT	
DS11	322-0146	A	I	LAMP - NORMAL 56V
DS12	322-0147	A	I	LAMP - EMERGENCY 56V
DS13	322-0114	A	I	LAMP - LO BAT VOLT (14V) [AT D.B.E]
	322-0114	A	I	LAMP - LO BAT VOLT (28V) (AT C)
DS14	322-0126	A	I	LAMP - HI BAT VOLT (14V) [AT D.B.E]
	322-0115	A	I	LAMP - HI BAT VOLT (28V) (AT C)
DS15	322-0127	A	I	LAMP - HI BAT VOLT (14V) [AT D.B.E]
	322-0127	A	I	LAMP - HI BAT VOLT (28V) (AT C)
DS15	322-0141	A	I	LENS & BEZEL ASSY
DS16	322-0107	A	I	LAMP - OVERCRANK (14V)
MII	302-0807	A	I	AMMETER - BAT CHARGER 0-2 AMP
M12	302-0485	P	I	METER - RUNNING TIME (20V) (50HZ)
	302-0466	P	I	METER - RUNNING TIME (240V) (60HZ)
	302-0467	P	I	METER - RUNNING TIME (480V) (50HZ)
	304-0636	A	I	RESISTOR, 9000Ω, 50W (500V)(60HZ) (USE WITH 302-0465 RTN ON 600V)
	302-0468	P	I	METER - RUNNING TIME (20V) (50HZ)
	302-0469	P	I	METER - RUNNING TIME (240V) (50HZ)
	302-0470	P	I	METER - RUNNING TIME (480V) (50HZ)
T11/2	315-0374	C	I	TRANSFORMER ASSY-STEPDOWN
	338-0883	C	I	HARNESSE-METER
	338-0661	C	I	HARNESSE-LAMPS(NORMAL & EMERGENCY)
	338-0669	B	I	HARNESSE-LAMPS(BAT VOLTS)
	301-3505	C	I	PANEL "METER"
	98-2413	D	I	SILKSCREEN-"METER PANEL"
	98-2445	A	I	"LAMP - POWER SENTRY"
		A	I	METER - LAMP COMBINATION LABEL

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
RUNNING TIME METER  
NORMAL & EMERGENCY LAMPS  
BATTERY VOLTAGE LAMPS

96

626-0009		PARTS LIST		DESCRIPTION	
REF. DES.	PART NO.	QTY.	UNIT	QTY.	UNIT
DS11-15	322-0141	A	5	LENS & BEZEL ASSY	
DS16	322-0107	A	1	LAMP - OVERCRANK (14V)	
MI1	302-0807	A	1	AMMETER-BAT CHARGER 0-2 AMP	
626-0009					
338-0679	D	1		HARNES - METER	
301-3504	C	1		PANEL - METER	
98-2412	D	1		SILKSCREEN-METER PANEL	
98-2445	A	1		LABEL - POWER ENTRY	
METER - LAMP COMBINATION: 01					
CHARGE AMMETER OVERCRANK LAMP (USE ON AT E ONLY)					

**REAR VIEW OF METER PANEL**

DS11: 1 2  
DS12: 1 2  
DS13: 1 2  
DS14: 1 2  
DS15: 1 2  
DS16: 1 2  
TB6-9: MI1-2

MI1: 1 2  
DS16-2  
2 TB7-2  
A  
1 TB7-1

**SCHEMATIC**

TB6-9: 1 2  
DS16: 1 2  
MI1: 1 2  
TB7: 1 2

**LEFT SIDE OF CABINET**

DS16-1: 1 2  
TB7: 1 2  
MI1-1: 1 2  
MI1-2: 1 2  
TB7: 1 2

CONNECT TO TB6-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET

CONNECT TO TB7  
IN  
CABINET

**THIS INFORMATION IS FOR MANUFACTURERS USE ONLY**

MODEL	DASH NO.
AT C,D&E	-01

**REMOVED FROM MODEL NO. 1220-023**

1-30-73

MI1-1

MI1-2

MI1-3

MI1-4

MI1-5

MI1-6

MI1-7

MI1-8

MI1-9

MI1-10

MI1-11

MI1-12

MI1-13

MI1-14

MI1-15

MI1-16

MI1-17

MI1-18

MI1-19

MI1-20

MI1-21

MI1-22

MI1-23

MI1-24

MI1-25

MI1-26

MI1-27

MI1-28

MI1-29

MI1-30

MI1-31

MI1-32

MI1-33

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MI1-46

MI1-47

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MI1-80

MI1-81

MI1-82

MI1-83

MI1-84

MI1-85

MI1-86

MI1-87

MI1-88

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MI1-93

MI1-94

MI1-95

MI1-96

MI1-97

MI1-98

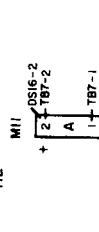
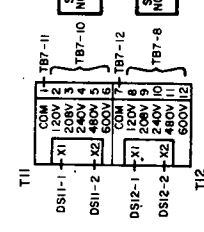
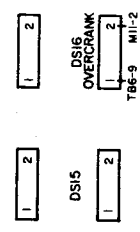
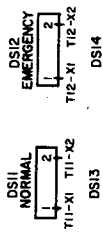
MI1-99

MI1-100

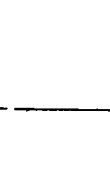
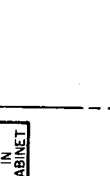
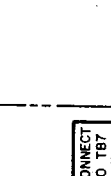
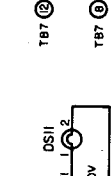
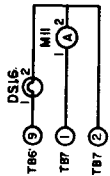


626-0010

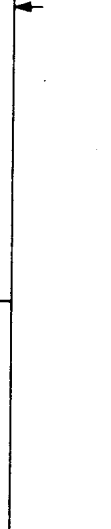
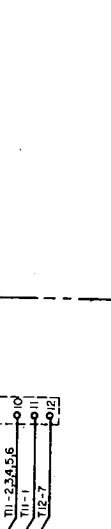
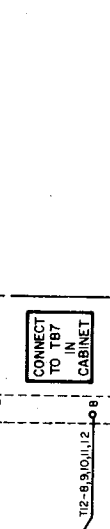
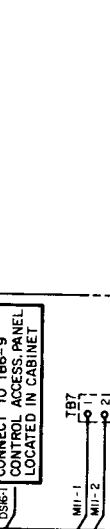
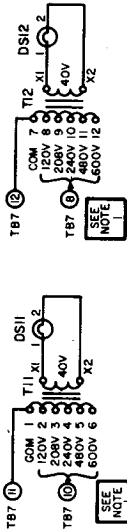
REAR VIEW OF  
METER PANEL



SCHEMATIC



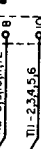
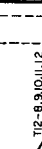
NOTE:  
1. WIRE TRANSFORMER T11 & T12 AS  
FOLLOWS:  
FOR 120V, CONNECT TB7-10 TO T11-8  
FOR 208V, CONNECT TB7-10 TO T11-3  
FOR 240V, CONNECT TB7-8 TO T11-2  
FOR 480V, CONNECT TB7-8 TO T11-10  
FOR 600V, CONNECT TB7-8 TO T11-6



LEFT SIDE OF CABINET

CONNECT TO TB6-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET

CONNECT  
TO TB7  
IN  
CABINET



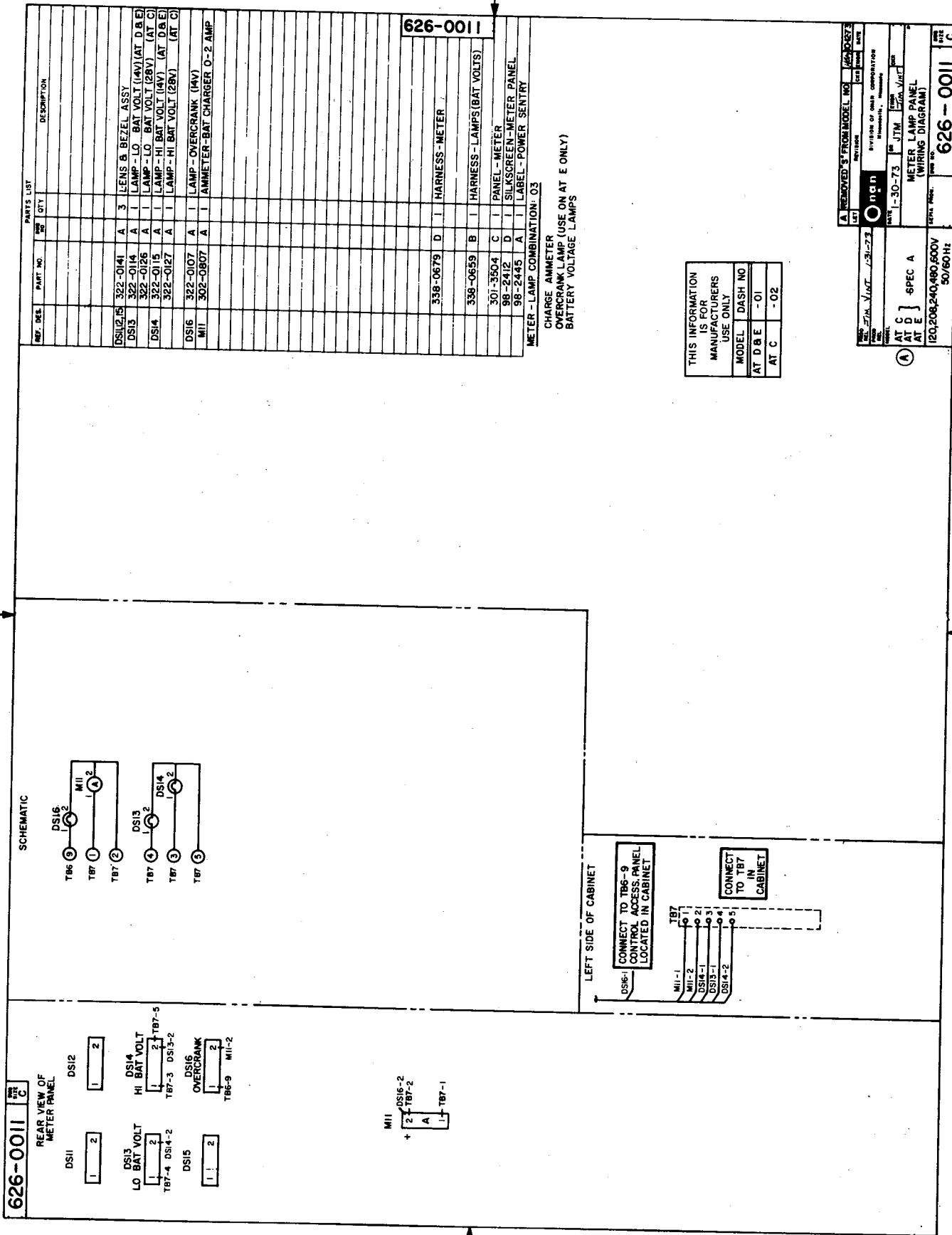
REF. DES.	PART NO.	QTY	DESCRIPTION
DS12	322-0146	A	LAMP-NORMAL 55V
DS12	322-0147	A	LAMP-EMERGENCY 55V
DS13-15	322-0141	A	3 LENS & BEZEL ASSY
DS16	322-0107	A	LAMP-OVERCRANK (14V)
M11	302-0807	A	1 AMMETER-BAT CHARGER 0-2 AMP
T11	315-0374	C	1 TRANSFORMER ASSY-STEPDOWN
T11-12	315-0374	C	1 TRANSFORMER ASSY-STEPDOWN
338-0679	D	1	HARNES-METER
338-0661	C	1	HARNES-LAMPS (NORMAL & EMERGENCY)
301-3504	C	1	PANEL-METER
98-2412	D	1	SILKSCREEN-METER PANEL
98-2445	A	1	LABEL-POWER SENTRY

METER - LAMP COMBINATION 02

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
NORMAL & EMERGENCY LAMPS

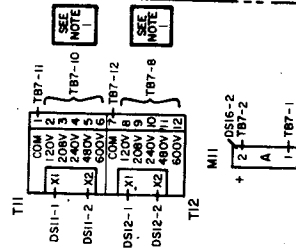
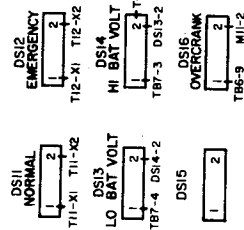
THIS INFORMATION  
IS FOR  
MANUFACTURERS  
USE ONLY  
MODEL DASH NO  
AT C.D.B. - 01

A REMOVED FROM MODEL NO. 101273	
REV. 1-30-73	DATE 1-30-73
BY J.M. JET	BY J.M. JET
CHECKED	CHECKED
DATE	DATE
DIVISION OF ORNL CORPORATION	
MEMPHIS, TENNESSEE	
MODEL	MODEL
AT C	AT C
AT E	AT E
METER LAMP PANEL (WIRING DIAGRAM)	
FORM NO.	FORM NO.
120,208,240,480,600V	50/60Hz
626-0010	
REV. 1-30-73	REV. 1-30-73
BY J.M. JET	BY J.M. JET
CHECKED	CHECKED
DATE	DATE
DIVISION OF ORNL CORPORATION	
MEMPHIS, TENNESSEE	
MODEL	MODEL
AT C	AT C
AT E	AT E
METER LAMP PANEL (WIRING DIAGRAM)	
FORM NO.	FORM NO.
120,208,240,480,600V	50/60Hz
626-0010	
REV. 1-30-73	REV. 1-30-73
BY J.M. JET	BY J.M. JET
CHECKED	CHECKED
DATE	DATE
DIVISION OF ORNL CORPORATION	
MEMPHIS, TENNESSEE	
MODEL	MODEL
AT C	AT C
AT E	AT E
METER LAMP PANEL (WIRING DIAGRAM)	
FORM NO.	FORM NO.
120,208,240,480,600V	50/60Hz
626-0010	

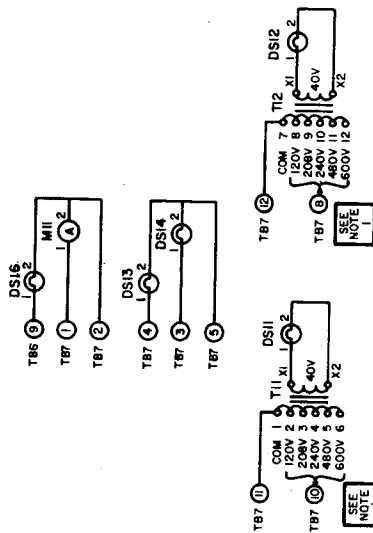


626-0012

REV C

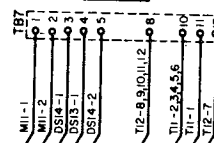
REAR VIEW OF  
METER PANEL

## SCHEMATIC



NOTE:  
1. WIRE TRANSFORMER T11 & T12 AS  
FOLLOWS:  
FOR 120V, CONNECT T11-2 TO T12-2  
FOR 208V, CONNECT T11-2 TO T12-3  
FOR 240V, CONNECT T11-2 TO T12-4  
FOR 480V, CONNECT T11-2 TO T12-5  
FOR 600V, CONNECT T11-2 TO T12-6

LEFT SIDE OF CABINET

CONNECT TO TB6-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY
MODEL
DASH NO
AT D & E
AT C
-02

REF. DES.	PART NO.	PARTS LIST QTY.	DESCRIPTION
DS11	322-0146	A	LAMP - NORMAL 56V
DS12	322-0147	A	LAMP - EMERGENCY 56V
DS13	322-0114	A	LAMP - LO BAT VOLT (14V) (AT D & E)
	322-0126	A	LAMP - LO BAT VOLT (28V) (AT C)
DS14	322-0115	A	LAMP - HI BAT VOLT (14V) (AT D & E)
	322-0127	A	LAMP - HI BAT VOLT (28V) (AT C)
DS15	322-0127	A	LENS & BEZEL ASSY
DS16	322-0107	A	LAMP - OVERCRANK (14V)
M11	302-0807	A	AMMETER - BAT CHARGER 0-2 AMP

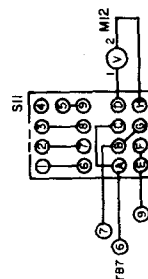
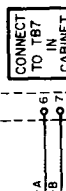
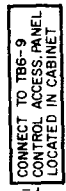
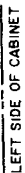
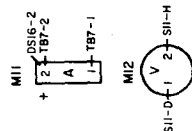
METER - LAMP COMBINATION: 04

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
NORMAL & EMERGENCY LAMPS  
BATTERY VOLTAGE LAMPS

A REMOVED FROM MODEL NO. 122-0482	
REV. 1-30-73	REV. 1-30-73
DATE 1-30-73	DATE 1-30-73
BY JTM	BY JTM
CHK V.P.	CHK V.P.
MODEL	MODEL
AT C	AT C
AT D	AT D
AT E	AT E
METER LAMP PANEL (WIRING DIAGRAM)	
TEMP. 120, 208, 240, 480, 600V	50/60 Hz
626-0012	



Q



CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTmeter  
SELECTOR SW

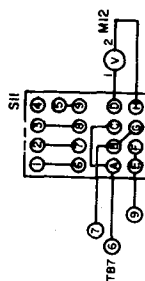
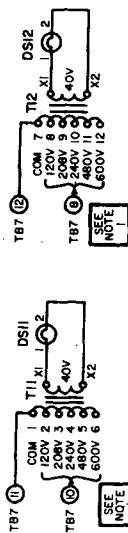
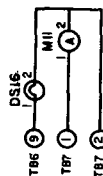
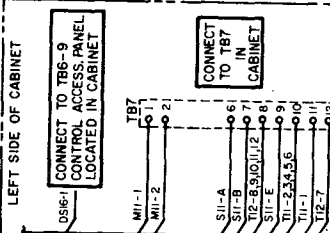
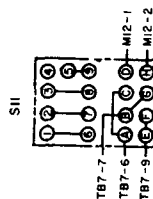
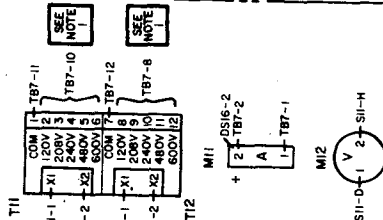
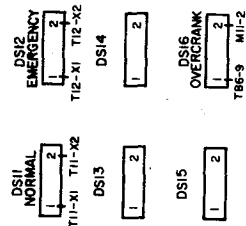
626-0014

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY	VOLTAGE	DASH NO
	208-240V	-01
	480V	-02
	600V	-03

Q	REMOVED "S" FROM MODEL NO.	DATE	REVISED
L-7	REVISED	6-8-70	WJG
DIVISION OF CHINA COMPASS CO. MANUFACTURER'S NAME MILWAUKEE			
O n g n		J T M	C W N
1-30-73			
METER LAMP PANEL (WIRING DIAGRAM)			
TEMP. PRIN.		626 - 0014	
208,240,480,600V 3PH, AW, 50/60HZ		C B	



REAR VIEW OF  
METER PANEL



LEFT SIDE OF CABINET

CONNECT TO TB6-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET

CONNECT  
TO TB7  
IN  
CABINET

NOTE:  
1. WIRE TRANSFORMER T11 & T12 AS  
FOLLOWS:

FOR 208V, CONNECT  
TB7-10 TO T11-3  
TB7-8 TO T12-9  
FOR 240V, CONNECT  
TB7-10 TO T11-4  
TB7-8 TO T12-10  
FOR 480V, CONNECT  
TB7-10 TO T11-5  
TB7-8 TO T12-11  
FOR 600V, CONNECT  
TB7-10 TO T11-6  
TB7-8 TO T12-12

[illegible]

TER - LAMP COMBINATION: 06  
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLT/METER  
SELECTOR SW  
NORMAL & EMERGENCY LAMPS

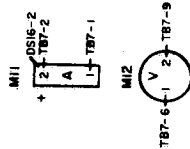
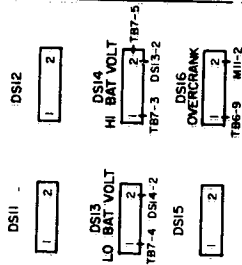
METER - LAMP COMBINATION: 06

VOLTAGE	DASH NO
208-240V	-01
480V	-02
600V	-03

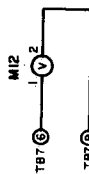
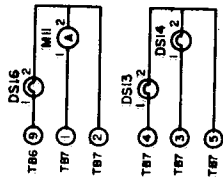
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626-0017

REAR VIEW OF  
METER PANEL

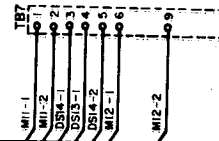


SCHEMATIC



LEFT SIDE OF CABINET

CONNECT TO T86-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET



CONNECT  
TO T87  
IN  
CABINET

REF. DES.	PART NO.	QTY.	DESCRIPTION
DS12-15	322-0141	A	3 LENS & BEZEL ASSY
DS13	322-0114	A	LAMP - LO BAT VOLT (14V) (AT D, E)
DS14	322-0126	A	LAMP - LO BAT VOLT (28V) (AT C)
DS15	322-0115	A	LAMP - HI BAT VOLT (14V) (AT D, E)
DS16	322-0127	A	LAMP - HI BAT VOLT (28V) (AT C)
DS17	322-0107	A	LAMP - OVERCRANK (14V)
DS18	302-0807	A	AMMETER - BAT CHARGER 0-2 AMP
DS19	302-0420	P	VOLTMETER 0-150VAC (120V)
DS20	302-0421	P	VOLTMETER 0-300VAC (240V)
DS21	338-0665	D	HARNESS - METER 1 PH
DS22	338-0659	B	HARNESS - LAMPS (BAT VOLTS)
DS23	301-3505	C	PANEL - METER
DS24	98-2413	D	SILKSCREEN - METER PANEL
DS25	98-2445	A	LABEL - POWER SENTRY
DS26			METER - LAMP COMBINATION 07
DS27			CHARGE AMMETER
DS28			OVERCRANK LAMP (USE ON AT E ONLY)
DS29			VOLTMETER
DS30			BATTERY VOLTAGE LAMPS

626-0017

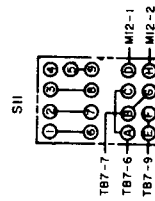
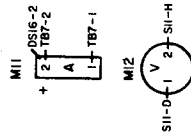
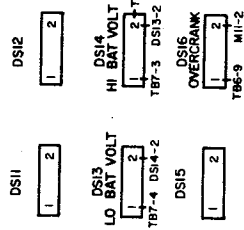
THIS INFORMATION IS FOR MANUFACTURERS USE ONLY	
VOLTAGE	AT D, E
120V	-01
240V	-02
	-03
	-04

C 1043 301-2506		1/2-11-73	
B 1043 98-2413		1/2-11-73	
A 1043 98-2413		1/2-11-73	
REVISED 3-20-73		REVISED 3-20-73	
DATE 3-20-73		JTM	
METER LAMP PANEL		(WIRING DIAGRAM)	
120V, 2W, 120/240V, 3W		1PH, 50/60 Hz	
SPEC A		626-0017	
AT C		AT D	
AT E		AT F	

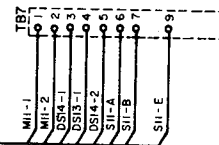


626-0018

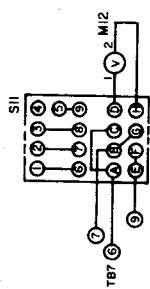
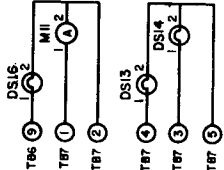
REV C

REAR VIEW OF  
METER PANEL

LEFT SIDE OF CABINET

CONNECT TO TB6-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINETCONNECT  
TO TB7  
IN  
CABINET

SCHEMATIC



REF. DES. PART NO. QTY. DESCRIPTION

REF. DES.	PART NO.	QTY.	DESCRIPTION
DS12-15	322-0141	A	3 LENS & BEZEL ASSY
DS13	322-0114	A	1 LAMP - LO BAT VOLT (14V) (AT D & E)
DS14	322-0126	A	1 LAMP - LO BAT VOLT (28V) (AT C)
DS15	322-0115	A	1 LAMP - HI BAT VOLT (14V) (AT D & E)
DS16	322-0127	A	1 LAMP - HI BAT VOLT (28V) (AT C)
DS17	322-0107	A	1 LAMP - OVERCRANK (14V)
DS18	322-0807	A	1 AMMETER - BAT CHARGER 0-2 AMP
DS19	302-0421	P	1 VOLTMETER 0-300VAC (208-240V)
DS20	302-0422	P	1 VOLTMETER 0-600VAC (480V)
DS21	302-0423	P	1 VOLTMETER 0-750VAC (600V)
DS22	308-0022	B	1 SWITCH - VOLTMETER
DS23	332-0592	A	3 JUMPER
DS24	98-2443	A	1 SILKSCREEN - SELECTOR SWITCH
DS25	338-0662	D	1 HARNESS - METER 3PH
DS26	338-0659	B	1 HARNESS - LAMPS (BAT VOLTS)
DS27	301-3506	C	1 PANEL - METER
DS28	98-2412	D	1 SILKSCREEN - METER PANEL
DS29	98-2445	A	1 LABEL - POWER SENTRY

626-0018

METER - LAMP COMBINATION: 07

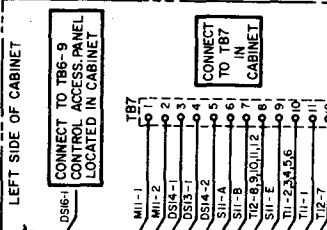
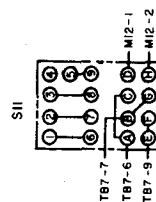
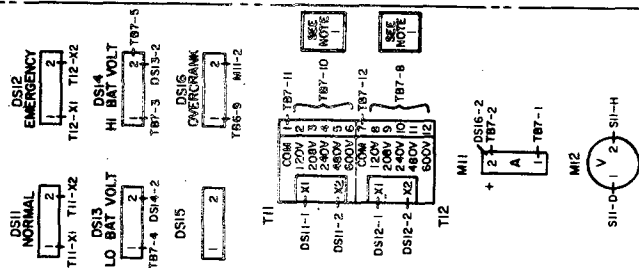
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
SELECTOR SW

BATTERY VOLTAGE LAMPS

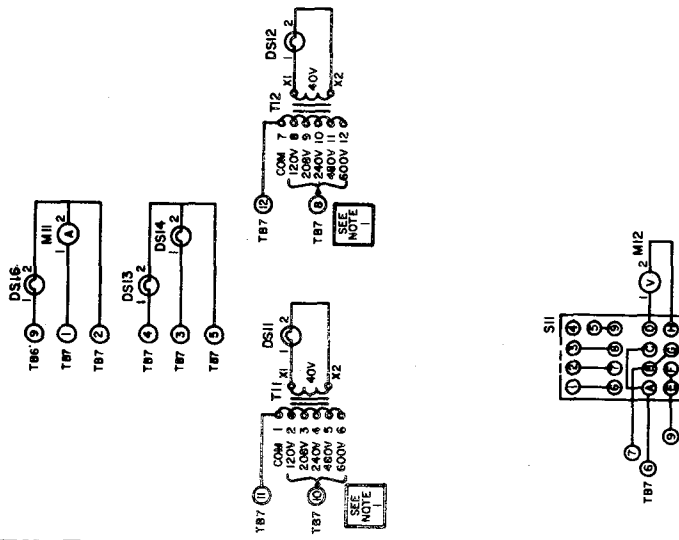
THIS INFORMATION IS FOR MANUFACTURERS USE ONLY		
VOLTAGE	AT D & E	AT C
208-240V	-01	-04
480V	-02	-05
600V	-03	-06

A. REMOVED'S FROM MODEL NO. 1/22-0227	
REV. NO. 1/22-0227	DATE 1-30-73
DIVISION OF ORAM CORPORATION	
JTM JTA JAT	
DATE 1-30-73	
METER LAMP PANEL (WIRING DIAGRAM)	
208-240, 480, 600V	3PH, 4W, 50/60Hz
626-0018 C	





## SCHEMATIC



NOTE: WIRE TRANSFORMER T11 & T12 AS FOLLOWS:

FOR 208V, CONNECT	TB7-10 TO T11-3
	TB7-8 TO T12-9
FOR 240V, CONNECT	TB7-10 TO T11-4
	TB7-8 TO T12-10
FOR 480V, CONNECT	TB7-10 TO T12-1
	TB7-8 TO T12-11
FOR 600V, CONNECT	TB7-10 TO T12-6
	TB7-8 TO T12-12

[illegible]

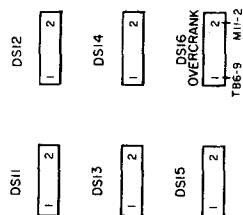
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLT METER  
SELECTOR SW  
NORMAL & EMERGENCY LAMPS  
BATTERY VOLTAGE LAMPS

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY			
VOLTAGE	AT D8 E	AT C	
208-240V	-01	-04	
480V	-02	-05	
600V	-03	-06	

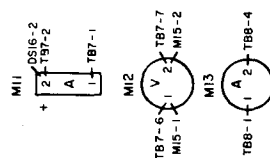
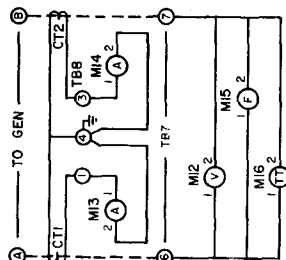
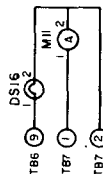
DATE	TIME	UNIT	REMARKS	REMOVED S' FROM MODEL NO	DATE
10-11-73	11-2-273			Original	10-11-73
MODEL NO. 208-240, 480, 600V SPEC A AT D AT E			DIVISION OF DATA CORPORATION Washington, D.C.		
208-240, 480, 600V 3PH, 4W, 50/60Hz			DATE 11-30-73 TIME 11-2-273 UNIT 100		
METER LAMP PANEL (WIRING DIAGRAM)			SERIAL FROM 626-0020 UNIT 100		

626-0022

REAR VIEW OF  
METER PANEL



SCHEMATIC



LEFT SIDE OF CABINET

CONNECT TO TB8-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET

CONNECT TO TB7  
IN  
CABINET

CONNECT TO TB8-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET

CONNECT TO TB7  
IN  
CABINET

CONNECT TO TB8-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET

CONNECT TO TB7  
IN  
CABINET

CONNECT TO TB8-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET

FRONT VIEW OF CABINET

MOUNT CURRENT  
TRANSFORMERS IN  
CABINET ABOVE  
TRANSFER SWITCH

CONNECT TO TB8-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET

CONNECT TO TB7  
IN  
CABINET

CONNECT TO TB8-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET

CONNECT TO TB7  
IN  
CABINET

CONNECT TO TB8-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET

CONNECT TO TB7  
IN  
CABINET

NOTES:  
1. NO. OF PRI. TURNS REQUIRED FOR  
CORRECT METER READING  
300, 100A 2 TURNS  
60, 100A 2 TURNS  
200, 400A 1 TURN

PARTS LIST

REF. DES.	QTY.	PART NO.	DESCRIPTION	QTY.
CT1	1	302-0851	TRANSFORMER ASSY - CUR	(30)
	1	302-0852	TRANSFORMER ASSY - CUR	(100)
	1	302-0853	TRANSFORMER ASSY - CUR	(100)
	1	302-0854	TRANSFORMER ASSY - CUR	(200)
	1	302-0855	TRANSFORMER ASSY - CUR	(400)
DS11-15	1	302-0141	LENS & BEZEL ASSY	
DS16	1	302-0107	LAMP - OVERCRANK (14V)	
M11	1	302-0807	AMMETER - BAT CHARGER 0-2 AMP	
M12	1	302-0421	VOLTMETER 0-300VAC	
M13,14	2	302-0404	AMMETER - AC 0-35AMP	(30)
	2	302-0406	AMMETER - AC 0-75AMP	(60)
	2	302-0408	AMMETER - AC 0-100AMP	(100)
	2	302-0411	AMMETER - AC 0-200AMP	(200)
	2	302-0605	AMMETER - AC 0-400AMP	(400)
M15	1	302-0895	METER - FREQ POINTER 240V 50HZ	
	1	302-0811	METER - FREQ POINTER 240V 60HZ	
M16	1	302-0469	METER - RUNNING TIME 240V 50HZ	
	1	302-0466	METER - RUNNING TIME 240V 60HZ	
TB8	1	332-1517	MARKER STRIP	
	1	338-0666	HARNESSE - METER 1PH	
	1	301-3508	PANEL - METER	
	1	98-2413	SILKSCREEN - METER PANEL	
	1	98-2445	LABEL - POWER ENTRY	

METER - LAMP COMBINATION 09

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
AMMETER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER

AMPERE	60 Hz	50 Hz
30	-01	-06
60	-02	-07
100	-03	-08
200	-04	-09
400	-05	-10

THIS INFORMATION IS FOR  
MANUFACTURERS USE ONLY

G M13, 14 WAS CT1	CT1	1	302-0851	TRANSFORMER ASSY - CUR	(30)
F WAS CT3	CT3	1	302-0852	TRANSFORMER ASSY - CUR	(100)
A WAS 302-0807	302-0807	1	302-0807	AMMETER - BAT CHARGER 0-2 AMP	
E ADDED 98-2413	98-2413	1	98-2413	SILKSCREEN - METER PANEL	
D REMOVED FROM MODEL NO					
C L WAS 301-3507	301-3507	1	301-3507	PANEL - METER	
B WAS 302-0847 THRU 50	302-0847	1	302-0847	AMMETER - AC 0-35AMP	(30)
A WAS 302-0855	302-0855	1	302-0855	TRANSFORMER ASSY - CUR	(400)

DATE	3-21-73	BY	JTM	CHK	CS
AT C					
AT D					
AT E					
240V, 2W, 120/240V, 3W,					
1PH.,					
50/60Hz					

626-0022

626-0022

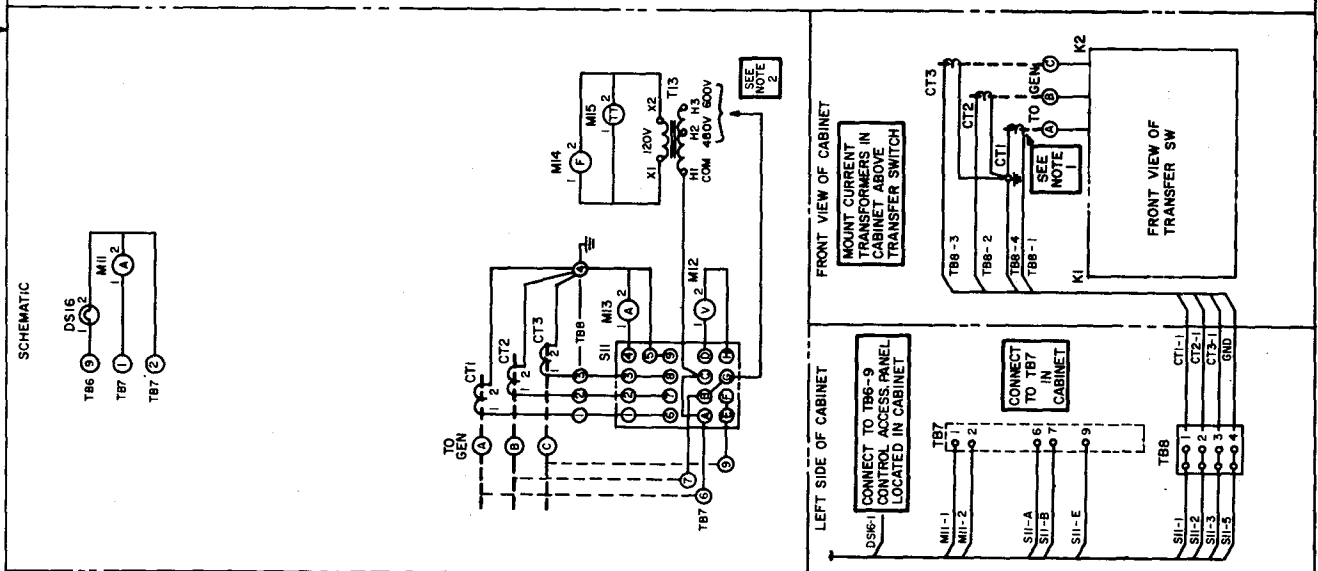
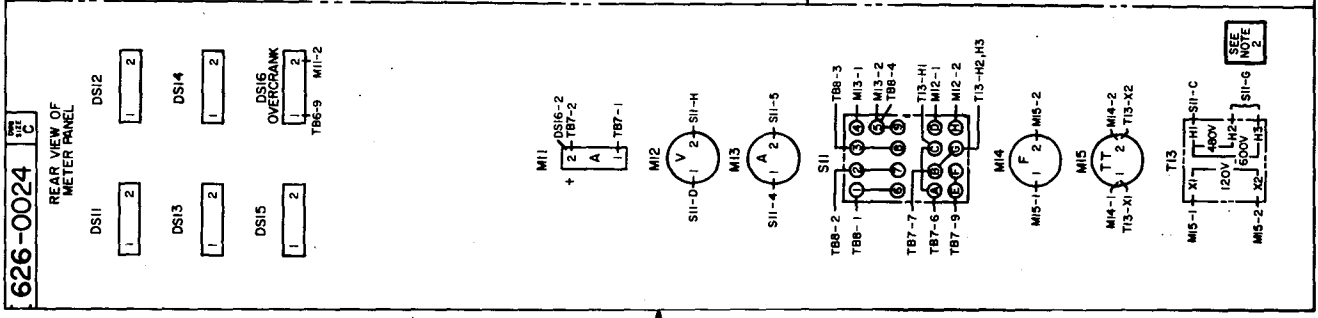
626-0022

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**626-0024**

REAR VIEW OF METER PANEL

**NOTES:**

NO. OF PRI. TURNS REQUIRED FOR CORRECT METER READING

50, 100A 2 TURNS

200, 400A 1 TURN

2. WIRE TRANSFORMER T13 AS FOLLOWS:  
 1. 120V, CONNECT T11-G TO T13-H2  
 2. 480V, CONNECT T11-G TO T13-H1  
 3. 600V, CONNECT T11-G TO T13-H3

**SCHEMATIC**

**FRONT VIEW OF CABINET**

**LEFT SIDE OF CABINET**

**FRONT VIEW OF TRANSFER SW**

**THIS INFORMATION IS FOR MANUFACTURERS USE ONLY**

AMPERE	VOLTAGE	60 Hz	50 Hz
30	480V	-01	-11
60	600V	-02	-12
100	480V	-03	-13
200	600V	-04	-14
400	480V	-05	-15
	600V	-06	-16
	480V	-07	-17
	600V	-08	-18
	480V	-09	-19
	600V	-10	-20

**METER - LAMP COMBINATION: D9**

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLT METER  
AMMETER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
SELECTOR SW

**PARTS LIST**

REF. DES.	PART NO.	QTY	DESCRIPTION	QTY
CT1-2,3	302-0647	B	TRANSFORMER ASSY - CUR	(30)
	302-0848	B	TRANSFORMER ASSY - CUR	(60)
	302-0849	B	TRANSFORMER ASSY - CUR	(100)
	302-0850	B	TRANSFORMER ASSY - CUR	(200)
	302-0855	B	TRANSFORMER ASSY - CUR	(400)
DSII-15	322-0411	A	LENS & BEZEL ASSY	
DS16	322-0107	A	LAMP - OVERCRANK (4V)	
MI1	302-0807	A	AMMETER - BAT CHARGER 0-2 AMP	
MI2	302-0422	P	VOLTMETER 0-600V (480V)	
MI3	302-0423	P	VOLTMETER 0-750V (600V)	
MI4	302-0404	B	AMMETER - AC 0-35AMP (30)	
MI5	302-0406	B	AMMETER - AC 0-75AMP (60)	
MI6	302-0408	B	AMMETER - AC 0-100AMP (100)	
MI7	302-0411	P	AMMETER - AC 0-200AMP (200)	
MI8	302-0605	P	AMMETER - AC 0-400AMP (400)	
MI9	302-0893	B	METER - FREQ POINTER 120V 50HZ	
MI10	302-0809	B	METER - FREQ POINTER 120V 60HZ	
MI11	302-0468	B	METER - RUNNING TIME 120V 50HZ	
MI12	302-0465	B	METER - RUNNING TIME 120V 60HZ	
SI1	308-0022	B	SWITCH - VOLT & AMMETER	
SI2	332-0592	A	JUMPER	
SI3	98-2443	A	SILKSCREEN - SELECTOR SWITCH	
TI1	315-0377	A	TRANSFORMER - STEPDOWN	
TI2	332-1517	A	MARKER STRIP	
TI3	338-0673	D	HARNES - METER 3 PH	
TI4	301-3507	C	PANEL - METER	
TI5	98-2412	D	SILKSCREEN - METER PANEL	
TI6	98-2445	A	LABEL - POWER ENTRY	

**626-0024**

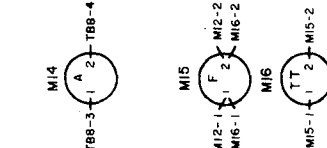
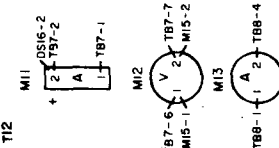
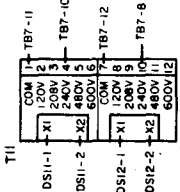
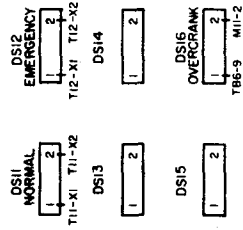
METER - LAMP PANEL (WIRING DIAGRAM)

480, 600V, 3PH, 50/60Hz

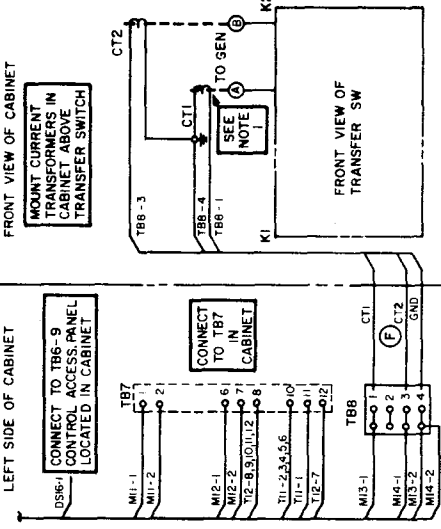
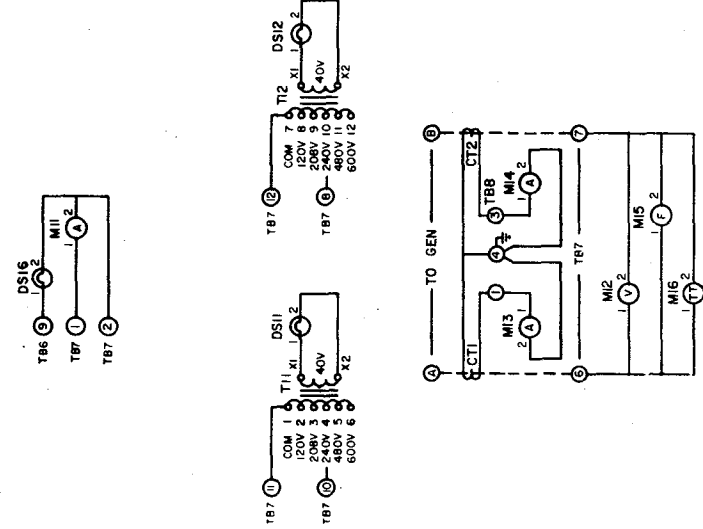
4W, 50/60Hz

626-0026

REAR VIEW OF  
METER PANEL



SCHEMATIC



NOTES:  
1. NO. OF PRI. TURNS REQUIRED FOR  
CORRECT METER READING  
30A 4 TURNS  
60,100A 2 TURNS  
200,400A 1 TURN

REF. DES.	PART NO.	QTY.	DESCRIPTION
CT1,2	302-0851	B	TRANSFORMER ASSY - CUR
	302-0852	B	TRANSFORMER ASSY - CUR
	302-0853	B	TRANSFORMER ASSY - CUR
	302-0854	B	TRANSFORMER ASSY - CUR
	302-0855	B	TRANSFORMER ASSY - CUR
DS11	302-0146	A	LAMP - NORMAL 56V
DS12	302-0147	A	LAMP - EMERGENCY 56V
DS13-15	302-0141	A	LENS & BEZEL ASSY
DS16	302-0107	A	LAMP - OVERCRANK (14V)
M11	302-0807	A	AMMETER - BAT CHARGER 0-2 AMP
M12	302-0421	P	VOLTMETER 0-300VAC
M13,14	302-0404	B	2 AMMETER - AC 0-35AMP (30)
	302-0406	B	2 AMMETER - AC 0-75AMP (60)
	302-0408	B	2 AMMETER - AC 0-100AMP (100)
	302-0410	B	2 AMMETER - AC 0-200AMP (200)
	302-0605	P	2 AMMETER - AC 0-400AMP (400)
M15	302-0885	B	METER - FREQ POINTER 240V 50HZ
M16	302-0811	B	METER - FREQ POINTER 240V 60HZ
	302-0469	P	METER - RUNNING TIME 240V 50HZ
	302-0466	P	METER - RUNNING TIME 240V 60HZ
T11,12	315-0374	C	TRANSFORMER ASSY - STEPDOWN
	332-1517	A	MARKER STRIP
	338-0666	D	HARNES - METER 1PH
	338-0661	C	HARNES - LAMPS (NORMAL & EMERGENCY)
	301-3508	C	PANEL - METER
	98-2413	D	SILKSCREEN - METER PANEL
	98-2445	A	LABEL - POWER SENTRY
			METER - LAMP COMBINATION IO

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
AMMETER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
NORMAL & EMERGENCY LAMPS

AMPERE	60 Hz	50 Hz
30	-01	-06
60	-02	-07
100	-03	-08
200	-04	-09
400	-05	-10

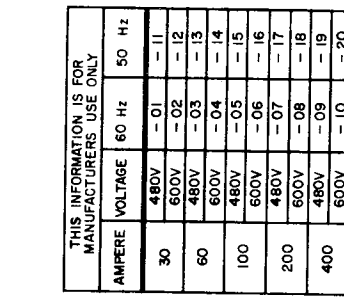
THIS INFORMATION IS FOR  
MANUFACTURERS USE ONLY

REV.	DATE	BY	CHKD.	APP.	DESCRIPTION
1	3-21-73	JTM			626-0026
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626-0026  
METER LAMP PANEL  
(WIRING DIAGRAM)





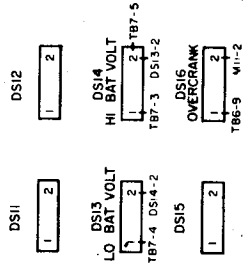


CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
AMMETER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
SELECTOR SW  
NORMAL & EMERGENCY LAMPS

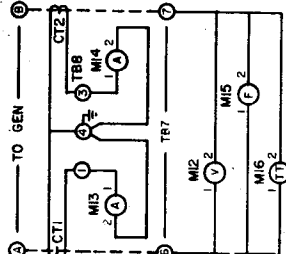
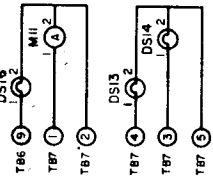
B WAS 302-0907	AS	1-1074
C REMOVED 5TH MODEL NO	MS	102673
B WAS 302-0855	AB	JUN 53 73
A REMOVED -21 TNU -4 D	CV	4-3-73
LET	REVISOR	CHECKED DATE
<div style="text-align: center;">   <b>Onion</b> </div> <div style="text-align: center;">             DIVISION OF OIL &amp; GAS CORPORATION              Minneapolis, Minnesota           </div>		
LATE	1-25-73	ON JTM
METER LAMP PANEL (WIRING DIAGRAM)		
SERIAL NO.	DRAW NO	DATE
		626-0028
SPEC A		480. 600V., 3PH., 50/60 Hz, 4W.

626-0030

REAR VIEW OF  
METER PANEL

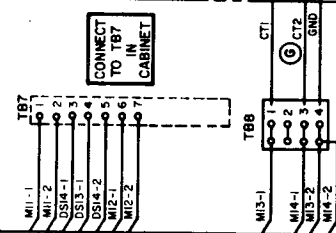


SCHEMATIC



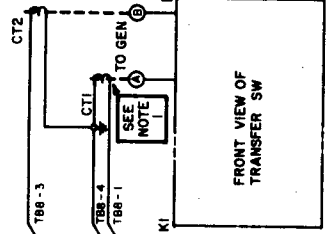
LEFT SIDE OF CABINET

CONNECT TO TB6-9  
CONTROL ACCESS PANEL  
LOCATED IN CABINET



FRONT VIEW OF CABINET

MOUNT CURRENT  
TRANSFORMERS IN  
CABINET ABOVE  
TRANSFER SWITCH



NOTES:  
1. NO OF PRI. TURNS REQUIRED FOR  
CORRECT METER READING  
30A 4 TURNS  
60, 100A 2 TURNS  
200, 400A 1 TURN

REF. DES.	PART NO.	DESCRIPTION	QTY.
CT1,2	302-0861	TRANSFORMER ASSY - CUR	(30)
B	302-0862	TRANSFORMER ASSY - CUR	(60)
B	302-0863	TRANSFORMER ASSY - CUR	(100)
B	302-0864	TRANSFORMER ASSY - CUR	(200)
A	302-0865	TRANSFORMER ASSY - CUR	(400)
J	DS12-041	LENS & BEZEL ASSY	
DS13	322-0141	LAMP - LO BAT VOLT (14V) (AT D & E)	
DS14	322-0142	LAMP - HI BAT VOLT (28V) (AT C)	
DS15	322-0143	LAMP - HI BAT VOLT (14V) (AT D & E)	
DS16	322-0144	LAMP - HI BAT VOLT (28V) (AT C)	
MI1	302-0107	LAMP - OVERCRANK (14V)	
MI2	302-0807	AMMETER - BAT CHARGER 0-2 AMP	
MI3,14	302-0421	VOLTMETER 0-300VAC	
B	302-0404	AMMETER - AC 0-35AMP	(30)
B	302-0406	AMMETER - AC 0-75AMP	(60)
B	302-0408	AMMETER - AC 0-100AMP	(100)
B	302-0411	AMMETER - AC 0-200AMP	(200)
P	302-0605	AMMETER - AC 0-400AMP	(400)
MI5	302-0895	METER - FREQ POINTER 240V 50HZ	
MI6	302-0811	METER - FREQ POINTER 240V 60HZ	
P	302-0469	METER - RUNNING TIME 208/240V/50HZ	
P	302-0466	METER - RUNNING TIME 208/240V/60HZ	
T88	332-1517	MARKER STRIP	
D	338-0666	HARNESS - METER 1PH	
B	338-0659	HARNESS - LAMPS (BAT VOLTS)	
C	301-3508	PANEL - METER	
D	98-2413	SILKSCREEN - METER PANEL	
A	98-2445	LABEL - POWER ENTRY	

METER - LAMP COMBINATION II

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
AMMETER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
BATTERY VOLTAGE LAMPS

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY			
AMPERE	AT D & E 60 Hz	AT C 50 Hz	AT C 50 Hz
30	-01	-06	-11
60	-02	-07	-12
100	-03	-08	-13
200	-04	-09	-14
400	-05	-10	-15

J WAS QTY.	QTY.	QTY.	QTY.
H MI3,14 WAS QTY 1	1	1	1
G WAS CT3	3	3	3
A WAS 302-0807	1	1	1
F ADDED 98-2413	1	1	1
E WAS 301-3507	1	1	1
D REMOVED 98-2413	1	1	1
C WAS 240 50/60 HZ	1	1	1
B WAS 302-0847 1PH 50	1	1	1
A WAS 302-0845	1	1	1

Origin

DATE 3-21-73

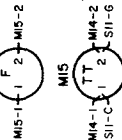
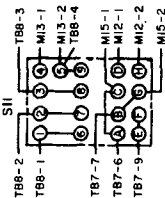
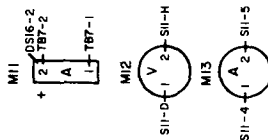
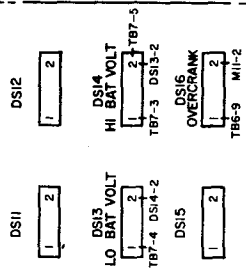
BY JTM

FOR METER LAMP PANEL (WIRING DIAGRAM)

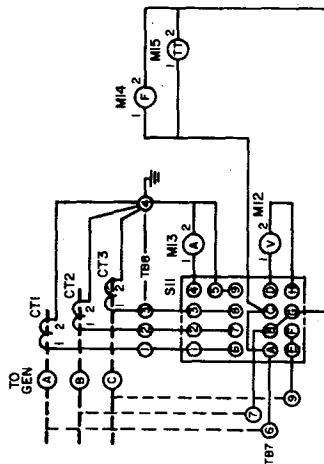
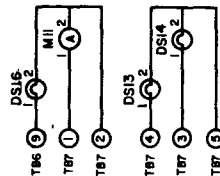
626-0030

626-0031

REAR VIEW OF  
METER PANEL

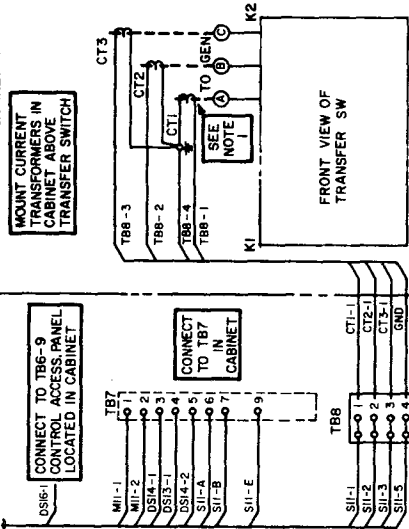


SCHEMATIC



LEFT SIDE OF CABINET

FRONT VIEW OF CABINET



NOTES:  
1. NO OF PRI TURNS REQUIRED FOR  
CORRECT METER READING  
300, 100A  
200, 400A

REF. DES.	PART NO.	QTY.	DESCRIPTION
CT1, 2, 3	302-0847	B	TRANSFORMER ASSY - CUR
	302-0848	B	TRANSFORMER ASSY - CUR
	302-0849	B	TRANSFORMER ASSY - CUR
	302-0850	B	TRANSFORMER ASSY - CUR
	302-0855	B	TRANSFORMER ASSY - CUR
DS11, 2, 15	322-0141	A	LENS & BEZEL ASSY
DS13	322-0114	A	LAMP - LO BAT VOLT (14V) (AT D & E)
DS14	322-0126	A	LAMP - LO BAT VOLT (28V) (AT C)
	322-0115	A	LAMP - HI BAT VOLT (14V) (AT D & E)
	322-0127	A	LAMP - HI BAT VOLT (28V) (AT C)
DS16	322-0107	A	LAMP - OVERCRANK (14V)
M11	302-0807	A	AMMETER - BAT CHARGER 0-2 AMP
M12	302-0421	P	VOLTMETER 0-300VAC
M13	302-0404	B	AMMETER - AC 0-35AMP (30)
	302-0406	B	AMMETER - AC 0-75AMP (60)
	302-0408	B	AMMETER - AC 0-100AMP (100)
	302-0411	P	AMMETER - AC 0-200AMP (200)
	302-0605	P	AMMETER - AC 0-400AMP (400)
M14	302-0894	B	METER - FREQ POINTER 208V 50HZ
	302-0896	B	METER - FREQ POINTER 208V 50HZ
	302-0810	B	METER - FREQ POINTER 208V 50HZ
	302-0811	B	METER - FREQ POINTER 208V 50HZ
M15	302-0469	P	METER - RUNNING TIME 208V/40V 50HZ
	302-0466	P	METER - RUNNING TIME 208V/40V 50HZ
S11	308-0022	B	SWITCH - VOLT & AMMETER
	322-0592	A	3 JUMPER
	98-2445	A	1 SILKSCREEN - SELECTOR SWITCH
TB8	332-1517	A	1 MARKER STRIP
	336-0663	D	1 HARNESS - METER 3PH
	338-0659	B	1 HARNESS - LAMPS (BAT VOLTS)
	301-3507	C	1 PANEL - METER
	98-2412	D	1 SILKSCREEN - METER PANEL
	98-2445	A	1 LABEL - POWER SENTRY

METER - LAMP COMBINATION: 11

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
SELECTOR SW  
BATTERY VOLTAGE LAMPS

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY									
AMPERE	VOLTAGE	AT D & E	60 Hz	AT C	60 Hz	AT D & E	50 Hz	AT C	50 Hz
30	208V	-01	-11	-12	-22	-32	-31	-31	-31
60	208V	-03	-13	-23	-33	-33	-33	-33	-33
100	240V	-04	-14	-24	-34	-34	-34	-34	-34
200	208V	-05	-15	-25	-35	-35	-35	-35	-35
400	208V	-06	-16	-26	-36	-36	-36	-36	-36
	208V	-07	-17	-27	-37	-37	-37	-37	-37
	240V	-08	-18	-28	-38	-38	-38	-38	-38
	208V	-09	-19	-29	-39	-39	-39	-39	-39
	240V	-10	-20	-30	-40	-40	-40	-40	-40

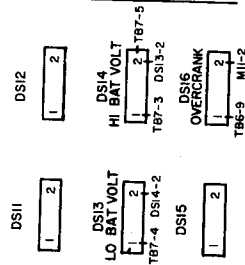
A WAS 302-0907	10	10-74
C REMOVED FROM MODEL NO	10	10-74
B WAS 240V 50/60 Hz	10	10-74
A WAS 302-0855	10	10-74
REVISION	DATE	DATE

DATE	TIME	DATE	TIME
1-29-73	10:00	1-29-73	10:00
BY	FOR	BY	FOR
JTM	JTM	JTM	JTM
METER LAMP PANEL (WIRING DIAGRAM)			
DATE	TIME	DATE	TIME
1-29-73	10:00	1-29-73	10:00
BY	FOR	BY	FOR
JTM	JTM	JTM	JTM
METER LAMP PANEL (WIRING DIAGRAM)			
DATE	TIME	DATE	TIME
1-29-73	10:00	1-29-73	10:00
BY	FOR	BY	FOR
JTM	JTM	JTM	JTM
METER LAMP PANEL (WIRING DIAGRAM)			

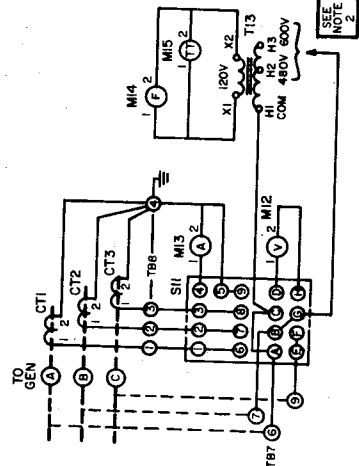
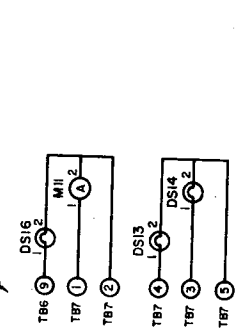
626-0031

626-0032

REAR VIEW OF  
METER PANEL

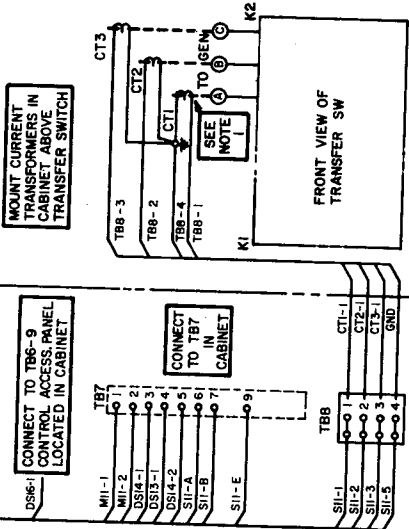


SCHEMATIC



LEFT SIDE OF CABINET

FRONT VIEW OF CABINET



NOTES:  
1. NO. OF PRI TURNS REQUIRED FOR CORRECT METER READING  
300, 1000  
60, 100A  
200, 400A  
2. WIRE TRANSFORMER T13 AS FOLLOWS:  
FOR 60V, CONNECT S11-G TO T13-H2  
FOR 120V, CONNECT S11-G TO T13-H1  
FOR 240V, CONNECT S11-G TO T13-H3

PARTS LIST

REF. DES.	PART NO.	QTY.	DESCRIPTION
CT1,2,3	302-0847	B	TRANSFORMER ASSY - CUR
	302-0848	B	TRANSFORMER ASSY - CUR
	302-0849	B	TRANSFORMER ASSY - CUR
	302-0850	B	TRANSFORMER ASSY - CUR
	302-0851	B	TRANSFORMER ASSY - CUR
	302-0852	B	TRANSFORMER ASSY - CUR
	302-0853	B	TRANSFORMER ASSY - CUR
	302-0854	B	TRANSFORMER ASSY - CUR
	302-0855	B	TRANSFORMER ASSY - CUR
DS11,2,3	322-0141	A	LENS & BEZEL ASSY
DS13	322-0114	A	LAMP - LO BAT VOLT (14V) (AT D & E)
DS14	322-0126	A	LAMP - LO BAT VOLT (28V) (AT C)
DS15	322-0115	A	LAMP - HI BAT VOLT (14V) (AT D & E)
	322-0127	A	LAMP - HI BAT VOLT (28V) (AT C)
DS16	322-0107	A	LAMP - OVERCRANK (HV)
M1	302-0807	A	AMMETER - BAT CHARGER 0-2 AMP
M2	302-0422	P	VOLTMETER 0-600V (480V)
M3	302-0423	P	VOLTMETER 0-750V (600V)
	302-0404	B	AMMETER - AC 0-35AMP (50V)
	302-0406	B	AMMETER - AC 0-75AMP (50V)
	302-0408	B	AMMETER - AC 0-100AMP (100V)
	302-0411	P	AMMETER - AC 0-200AMP (200V)
M4	302-0605	P	AMMETER - AC 0-400AMP (400V)
	302-0609	B	METER - FREQ POINTER 120V 50HZ
M5	302-0468	P	METER - FREQ POINTER 120V 50HZ
	302-0465	P	METER - RUNNING TIME 120V 50HZ
S11	308-0022	B	SWITCH - VOLT & AMMETER
	332-0592	A	JUMPER
	98-2443	A	SILKSCREEN - SELECTOR SWITCH
T13	315-0377	A	TRANSFORMER - STEPDOWN
TB8	332-1517	A	MARKER STRIP
	338-0673	D	HARNESS - METER 3 PH
	338-0659	B	HARNESS - LAMPS (BAT VOLTS)
	301-3507	C	PANEL - METER
	98-2412	D	SILKSCREEN - METER PANEL
	98-2445	A	LABEL - POWER SENTRY

626-0032

METER - LAMP COMBINATION: 11

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLTMETER  
AMMETER  
FREQ METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
SELECTOR SW  
BATTERY VOLTAGE LAMPS

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

AMPERE	VOLTAGE	AT D & E 60 Hz	AT C 60 Hz	AT D & E 50 Hz	AT C 50 Hz
30	480V	-01	-11	-21	-31
	600V	-02	-12	-22	-32
60	480V	-03	-13	-23	-33
	600V	-04	-14	-24	-34
100	480V	-05	-15	-25	-35
	600V	-06	-16	-26	-36
200	480V	-07	-17	-27	-37
	600V	-08	-18	-28	-38
400	480V	-09	-19	-29	-39
	600V	-10	-20	-30	-40

REVISIONS

REV.	DATE	DESCRIPTION
1	1-29-73	REVISED
2	1-29-73	REVISED
3	1-29-73	REVISED
4	1-29-73	REVISED
5	1-29-73	REVISED
6	1-29-73	REVISED
7	1-29-73	REVISED
8	1-29-73	REVISED
9	1-29-73	REVISED
10	1-29-73	REVISED

DATE: 1-29-73

BY: JTM

FOR: JTM

REVISION: 1

REVISION: 2

REVISION: 3

REVISION: 4

REVISION: 5

REVISION: 6

REVISION: 7

REVISION: 8

REVISION: 9

REVISION: 10

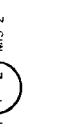
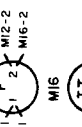
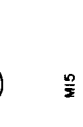
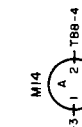
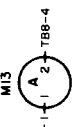
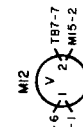
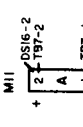
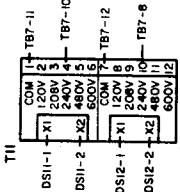
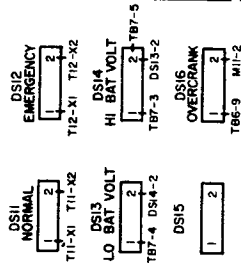
AT C } SPEC A  
AT D }  
AT E }

480, 600V., 3PH., 50/60 Hz

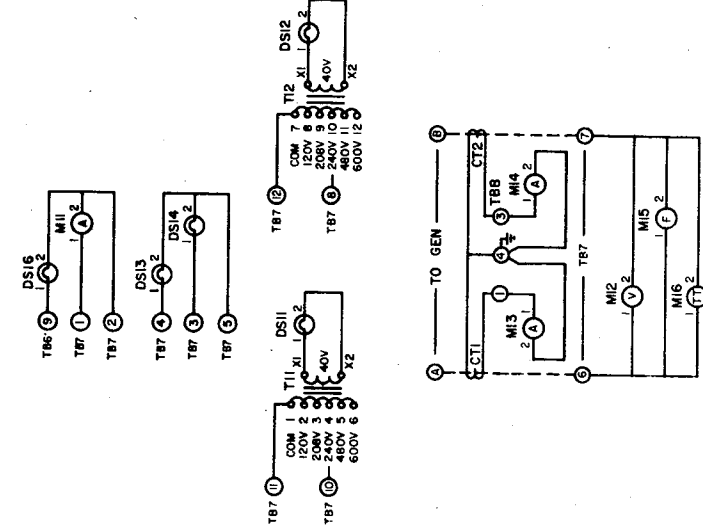
626-0032

626-0034

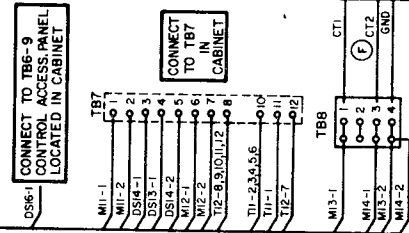
REAR VIEW OF  
METER PANEL



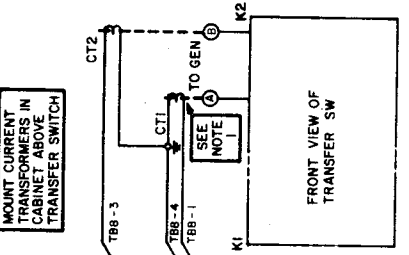
# SCHEMATIC



## LEFT SIDE OF CABINET



## FRONT VIEW OF CABINET



THIS INFORMATION IS FOR  
MANUFACTURERS USE ONLY

AMPERE	AT D & E	AT C	AT D & E	AT C
30	-01	-06	-11	-16
60	-02	-07	-12	-17
100	-03	-08	-13	-18
200	-04	-09	-14	-19
400	-05	-10	-15	-20

ORDER OF ASSEMBLY

NO.	ITEM	QTY	UNIT
1	WAS 302-0851	1	TRANSFORMER ASSY-CUR
2	WAS 302-0852	1	TRANSFORMER ASSY-CUR
3	WAS 302-0853	1	TRANSFORMER ASSY-CUR
4	WAS 302-0854	1	TRANSFORMER ASSY-CUR
5	WAS 302-0855	1	TRANSFORMER ASSY-CUR
6	WAS 302-0856	1	TRANSFORMER ASSY-CUR
7	WAS 302-0857	1	TRANSFORMER ASSY-CUR
8	WAS 302-0858	1	TRANSFORMER ASSY-CUR
9	WAS 302-0859	1	TRANSFORMER ASSY-CUR
10	WAS 302-0860	1	TRANSFORMER ASSY-CUR
11	WAS 302-0861	1	TRANSFORMER ASSY-CUR
12	WAS 302-0862	1	TRANSFORMER ASSY-CUR
13	WAS 302-0863	1	TRANSFORMER ASSY-CUR
14	WAS 302-0864	1	TRANSFORMER ASSY-CUR
15	WAS 302-0865	1	TRANSFORMER ASSY-CUR
16	WAS 302-0866	1	TRANSFORMER ASSY-CUR
17	WAS 302-0867	1	TRANSFORMER ASSY-CUR
18	WAS 302-0868	1	TRANSFORMER ASSY-CUR
19	WAS 302-0869	1	TRANSFORMER ASSY-CUR
20	WAS 302-0870	1	TRANSFORMER ASSY-CUR

DATE 3-21-73

BY JTM

626-0034

ORDER OF ASSEMBLY

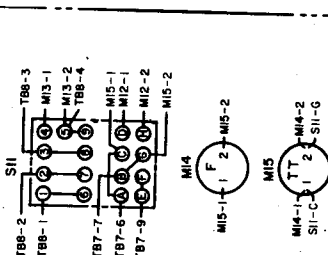
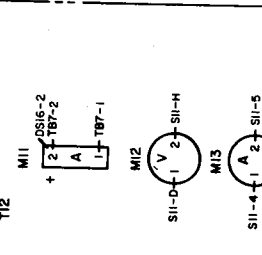
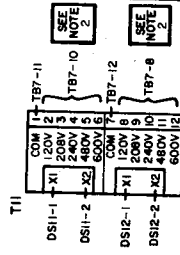
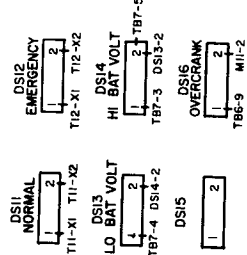
DATE 3-21-73

BY JTM

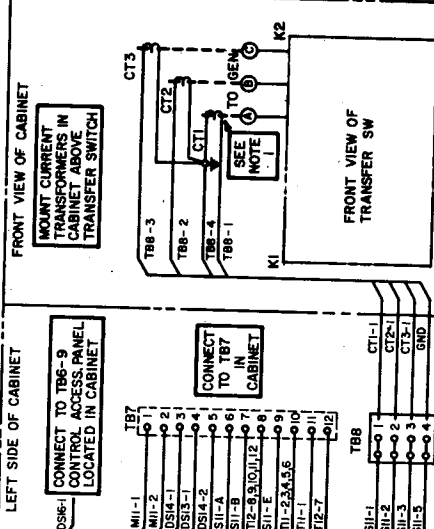
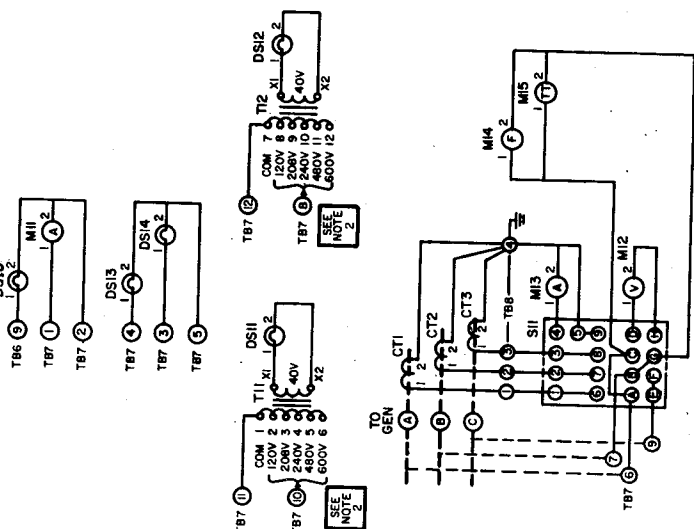
626-0034

626-0035

REAR VIEW OF  
METER PANEL



SCHEMATIC



NOTES:  
NO. OF PRI. TURNS REQUIRED FOR  
CORRECT METER READING  
50, 100A 2 TURNS  
200, 400A 1 TURN

2. WIRE TRANSFORMER T11 & T12 AS  
FOLLOWS:  
FOR 208V, CONNECT T11-10 TO T11-3  
FOR 240V, CONNECT T11-10 TO T11-4  
FOR 208V, CONNECT T12-10 TO T12-3  
FOR 240V, CONNECT T12-10 TO T12-4

REF. DES.	PART NO.	QTY.	DESCRIPTION
CTL2,3	302-0847	1	TRANSFORMER ASSY - CUR
	302-0848	1	TRANSFORMER ASSY - CUR
	302-0849	1	TRANSFORMER ASSY - CUR
	302-0850	1	TRANSFORMER ASSY - CUR
	302-0851	1	TRANSFORMER ASSY - CUR
	302-0852	1	TRANSFORMER ASSY - CUR
	302-0853	1	TRANSFORMER ASSY - CUR
	302-0854	1	TRANSFORMER ASSY - CUR
	302-0855	1	TRANSFORMER ASSY - CUR
	302-0856	1	TRANSFORMER ASSY - CUR
	302-0857	1	TRANSFORMER ASSY - CUR
	302-0858	1	TRANSFORMER ASSY - CUR
	302-0859	1	TRANSFORMER ASSY - CUR
	302-0860	1	TRANSFORMER ASSY - CUR
	302-0861	1	TRANSFORMER ASSY - CUR
	302-0862	1	TRANSFORMER ASSY - CUR
	302-0863	1	TRANSFORMER ASSY - CUR
	302-0864	1	TRANSFORMER ASSY - CUR
	302-0865	1	TRANSFORMER ASSY - CUR
	302-0866	1	TRANSFORMER ASSY - CUR
	302-0867	1	TRANSFORMER ASSY - CUR
	302-0868	1	TRANSFORMER ASSY - CUR
	302-0869	1	TRANSFORMER ASSY - CUR
	302-0870	1	TRANSFORMER ASSY - CUR
	302-0871	1	TRANSFORMER ASSY - CUR
	302-0872	1	TRANSFORMER ASSY - CUR
	302-0873	1	TRANSFORMER ASSY - CUR
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	302-0880	1	TRANSFORMER ASSY - CUR
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	302-0951	1	TRANSFORMER ASSY - CUR
	302-0952	1	TRANSFORMER ASSY - CUR
	302-0953	1	TRANSFORMER ASSY - CUR
	302-0954	1	TRANSFORMER ASSY - CUR
	302-0955	1	TRANSFORMER ASSY - CUR
	302-0956	1	TRANSFORMER ASSY - CUR
	302-0957	1	TRANSFORMER ASSY - CUR
	302-0958	1	TRANSFORMER ASSY - CUR
	302-0959	1	TRANSFORMER ASSY - CUR
	302-0960	1	TRANSFORMER ASSY - CUR
	302-0961	1	TRANSFORMER ASSY - CUR
	302-0962	1	TRANSFORMER ASSY - CUR
	302-0963	1	TRANSFORMER ASSY - CUR
	302-0964	1	TRANSFORMER ASSY - CUR
	302-0965	1	TRANSFORMER ASSY - CUR
	302-0966	1	TRANSFORMER ASSY - CUR
	302-0967	1	TRANSFORMER ASSY - CUR
	302-0968	1	TRANSFORMER ASSY - CUR
	302-0969	1	TRANSFORMER ASSY - CUR
	302-0970	1	TRANSFORMER ASSY - CUR
	302-0971	1	TRANSFORMER ASSY - CUR
	302-0972	1	TRANSFORMER ASSY - CUR
	302-0973	1	TRANSFORMER ASSY - CUR
	302-0974	1	TRANSFORMER ASSY - CUR
	302-0975	1	TRANSFORMER ASSY - CUR
	302-0976	1	TRANSFORMER ASSY - CUR
	302-0977	1	TRANSFORMER ASSY - CUR
	302-0978	1	TRANSFORMER ASSY - CUR
	302-0979	1	TRANSFORMER ASSY - CUR
	302-0980	1	TRANSFORMER ASSY - CUR
	302-0981	1	TRANSFORMER ASSY - CUR
	302-0982	1	TRANSFORMER ASSY - CUR
	302-0983	1	TRANSFORMER ASSY - CUR
	302-0984	1	TRANSFORMER ASSY - CUR
	302-0985	1	TRANSFORMER ASSY - CUR
	302-0986	1	TRANSFORMER ASSY - CUR
	302-0987	1	TRANSFORMER ASSY - CUR
	302-0988	1	TRANSFORMER ASSY - CUR
	302-0989	1	TRANSFORMER ASSY - CUR
	302-0990	1	TRANSFORMER ASSY - CUR
	302-0991	1	TRANSFORMER ASSY - CUR
	302-0992	1	TRANSFORMER ASSY - CUR
	302-0993	1	TRANSFORMER ASSY - CUR
	302-0994	1	TRANSFORMER ASSY - CUR
	302-0995	1	TRANSFORMER ASSY - CUR
	302-0996	1	TRANSFORMER ASSY - CUR
	302-0997	1	TRANSFORMER ASSY - CUR
	302-0998	1	TRANSFORMER ASSY - CUR
	302-0999	1	TRANSFORMER ASSY - CUR
	302-1000	1	TRANSFORMER ASSY - CUR

626-0035

METER-LAMP COMBINATION: 12  
CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLT-METER  
AMMETER  
FREQ. METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
SELECTOR SW  
NORMAL & EMERGENCY LAMPS  
BATTERY VOLTAGE LAMPS

AMPERE	VOLTAGE	AT D E	AT C	AT D E	AT C
30	208V	-01	-11	-21	-31
60	208V	-02	-12	-22	-32
100	208V	-03	-13	-23	-33
200	208V	-04	-14	-24	-34
400	208V	-05	-15	-25	-35
	240V	-06	-16	-26	-36
	240V	-07	-17	-27	-37
	240V	-08	-18	-28	-38
	240V	-09	-19	-29	-39
	240V	-10	-20	-30	-40

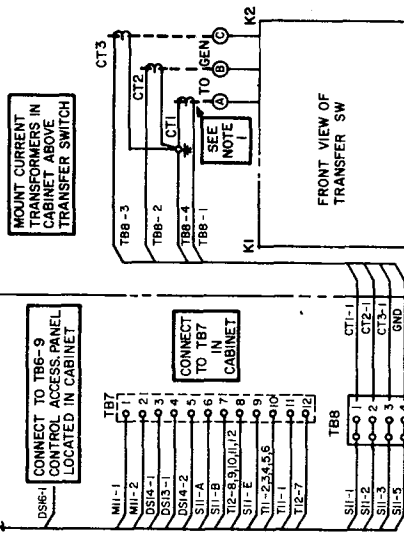
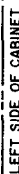
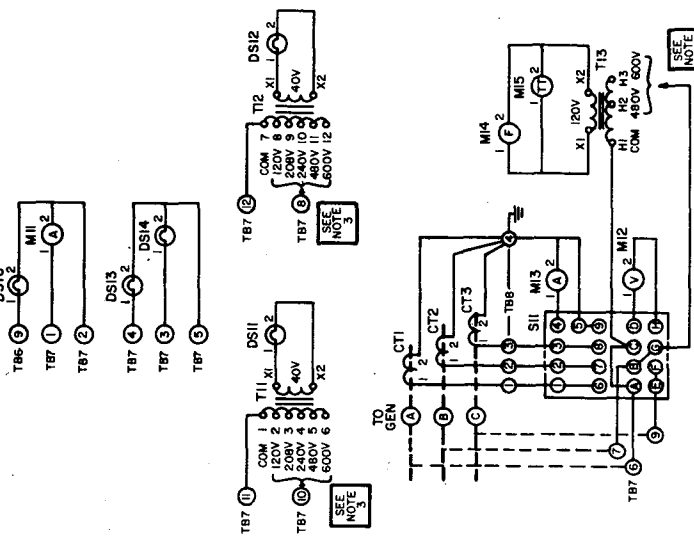
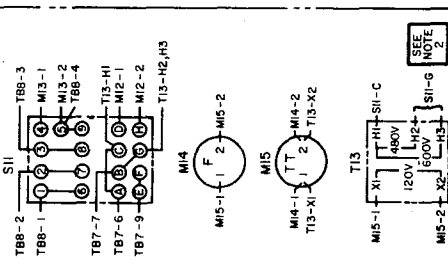
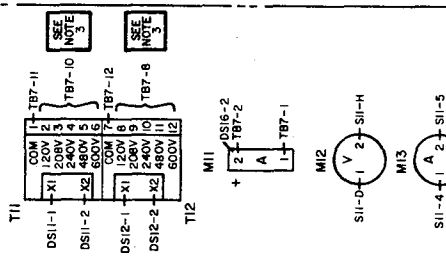
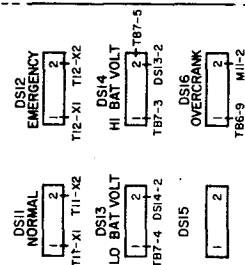
THIS INFORMATION IS FOR MANUFACTURERS USE ONLY

DATE: 1-25-73 BY: JTM FOR: JTM

REVISION: 1

626-0035

626-0035

REAR VIEW OF  
METER PANEL

NOTES:

1. NO. OF PRI TURNS REQUIRED FOR CORRECT METER READING  
30A 4 TURNS  
600, 100A 2 TURNS  
200, 400A 1 TURN
2. WIRE TRANSFORMER T13 AS FOLLOWS:  
FOR 480V, CONNECT SI-G TO T13-H2  
FOR 600V, CONNECT SI-G TO T13-H3
3. WIRE TRANSFORMER T11 & T12 AS FOLLOWS:  
FOR 480V, CONNECT T17-8 TO T11-11  
T17-10 TO T11-12  
FOR 600V, CONNECT T17-8 TO T12-12  
T17-10 TO T12-13

REF. DES.	PART NO.	QTY	DESCRIPTION
CT12.3	302-0347	B	TRANSFORMER ASSY - CUR (30)
	302-0348	B	TRANSFORMER ASSY - CUR (60)
	302-0349	B	TRANSFORMER ASSY - CUR (100)
	302-0350	B	TRANSFORMER ASSY - CUR (200)
	302-0355	B	TRANSFORMER ASSY - CUR (400)
DS11	322-0146	A	LAMP - EMERGENCY 56V
	322-0147	A	LAMP - EMERGENCY 56V
	322-0148	A	LAMP - LO BAT VOLT (14V) (AT D & E)
	322-0149	A	LAMP - LO BAT VOLT (28V) (AT C)
	322-015	A	LAMP - HI BAT VOLT (14V) (AT D & E)
DS15	322-017	A	LAMP - HI BAT VOLT (28V) (AT C)
	322-01	A	LENS & BEZEL ASSY
	322-007	A	LAMP - OVERCRANK (14V)
	302-0807	A	ANMMETER-BAT CHARGER 0-2 AMP
	302-0422	P	VOLTMETER 0-600V (480V)
M15	302-0423	P	VOLTMETER 0-750V (600V)
	302-0404	B	ANMMETER - AC 0-35AMP (130)
	302-0406	B	ANMMETER - AC 0-75AMP (160)
	302-0408	B	ANMMETER - AC 0-100AMP (100)
	302-0411	P	ANMMETER - AC 0-200AMP (200)
M14	302-0605	P	METER - FREQ POINTER 400AMP (400)
	302-0393	B	METER - FREQ POINTER 120V 50HZ
	302-0369	B	METER - FREQ POINTER 120V 60HZ
	302-0468	P	METER - RUNNING TIME 120V 50HZ
	302-0465	P	METER - RUNNING TIME 120V 60HZ
S11	308-0022	B	1 SWITCH - VOLT & AMMETER
	332-0039	A	JUMPER
	98-2443	A	3 SILKSCREEN - SELECTOR SWITCH
	98-2443	A	3 SILKSCREEN - SELECTOR SWITCH
	315-0374	C	TRANSFORMER ASSY - STEPDOWN
T11.2	315-0377	A	TRANSFORMER - STEPDOWN
T13	332-1517	A	MARKER STRIP
TB8	338-0673	D	HARNES - METER 3 PH
	338-0661	C	HARNES - LAMPS (NORMAL & EMERGENCY)
	338-0659	B	HARNES - LAMPS (BAT VOLTS)
	301-3507	C	PANEL - METER
	98-2412	D	SILKSCREEN - METER PANEL
98-2445	A		LABEL - POWER SWITCH

METER - LAMP COMBINATION: 12

CHARGE AMMETER  
OVERCRANK LAMP (USE ON AT E ONLY)  
VOLT METER  
AMMETER  
FREQ. METER  
RUNNING TIME METER  
CURRENT TRANSFORMER  
SELECTOR SW  
NORMAL & EMERGENCY LAMPS  
BATTERY VOLTAGE LAMPS

THIS INFORMATION IS FOR MANUFACTURERS USE ONLY					
AMPERE	VOLTAGE	AT D & E 60 Hz	AT C 60 Hz	AT D & E 50 Hz	AT C 50 Hz
30	480V	-01	-11	-21	-31
	600V	-02	-12	-22	-32
60	480V	-03	-13	-23	-33
	600V	04	14	24	34
100	480V	-05	-15	-25	-35
	600V	-06	-16	-26	-36
200	480V	-07	-17	-27	-37
	600V	-08	-18	-28	-38
400	480V	-09	-19	-29	-39
	600V	10	20	30	40

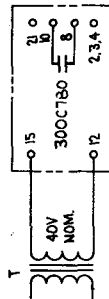
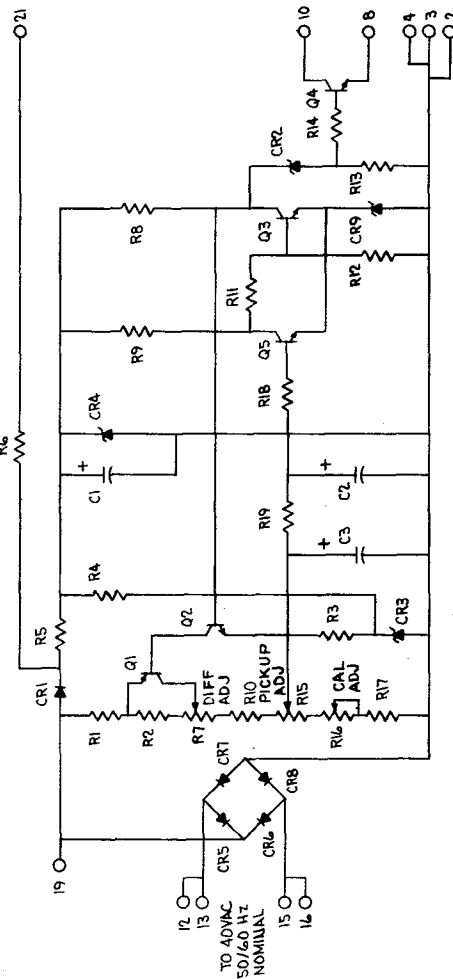
A WAS 302-0907	NO	1-17-74
B REMOVED S FROM MODEL NO	NO	10-2-73
C WAS 302-0855	NO	TV 5-3-73
LET	REVISED	DATE
<b>Ong</b>	DIVISION OF OIL & GAS CORPORATION WASHINGTON, D.C.	
DATE 1-29-73	BY JTM	FORM V-107
METER LAMP PANEL (WIRING DIAGRAM)		
REPL. FROM. TOWN NO	626-0036	
	DATE	BY

# MODULES

MODULE	PAGE
300-0780 Voltage Sensor .....	122
300-0793 Battery Charger (12V) .....	123
300-0794 Battery Charger (24V) .....	124
300-0796 Battery Voltage (12V) .....	125
300-0797 Battery Voltage (24V) .....	126
300-0847 Voltage (12V) .....	127
300-0848 24V to 12V Converter.....	128
300-0857 Extension Board .....	129
300-0921 Start-Stop T.D. (12V) .....	130
300-0922 Start-Stop T.D. (24V) .....	131
300-0924 Transfer T.D. ....	132
300-0926 2 to 3 Wire Converter .....	133
300-0927 Bypass Plug .....	134
300-0937 Blank (Spare) .....	135
300-1072 Preheat T.D. ....	136
300-1177 Start-Stop Bypass Plug.....	137
307-1199 Retransfer T.D. ....	138



## SCHEMATIC



SYMBOL FOR SCHEMATIC DIAG.

NOTES:

INPUT ..... 40 VOLTS NOMINAL 50/60 HZ (USE 10 VA STEP-DOWN TRANSFORMER DIAL IS CALIBRATED FOR 120:40 V STEPPING)

OUT PUT (TERMINAL 21) ..... 50 MA INTO 470Ω RESISTIVE LOAD (NOTE USE FREE WHEELING DIODE OR CAPACITOR ACROSS W-21 FOR RELAY LOADS. RECOMMEND 15 UF 50VDC CAP)

OUTPUT (TERMINAL 8-10) ..... 150 MA

SPECIFICATION

PICKUP VOLTAGE ADJ RANGE ..... 80-140 VOLTS 50/60 HZ

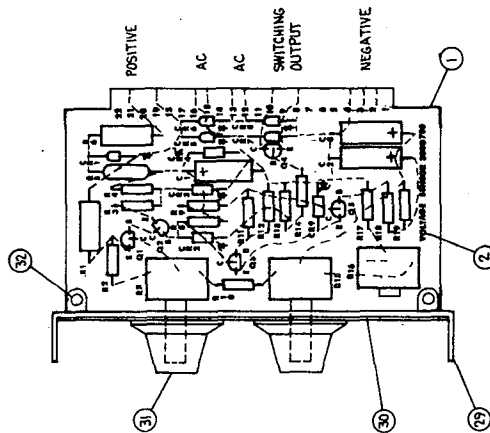
FOR 160-280V MULTIPLY DIAL READING BY 2

FOR 360-560V MULTIPLY DIAL READING BY 4

FOR 450-700V MULTIPLY DIAL READING BY 5

DROP OUT DIFFERENTIAL RANGE ..... 5-20% OF PICKUP VOLTAGE SETTING

DRIFT DUE TO TEMP ..... ±2 VOLTS MAX (75°F TO +175°F OR 75°F TO -25°F)



NOTES:

TEST AND CALIBRATE PER DRAWING 5386161.

LET	REVISIONS	DATE	BY	CHK	APP
A	SUPERSEDES DWG SAME NO DATED 10/29/70	1-31-72	J.P.		
B	ADDED 4" MARKING TO CAPACITORS	1-31-72	J.P.		
C	WAS 560-700V	1-31-72	J.P.		
D	WAS (25 TO +115 V)	1-31-72	J.P.		
E	DELETE ITEM 34 860-9 2 NUT-HMS #6	5-4-72	J.P.		
F	DELETE ITEM 33 863-3 2 WASHER-ET 1/4"	5-4-72	J.P.		
G	WAS 80P59 2 SCREW-RIM 6.31 x 1/4"	5-4-72	J.P.		
H	PART NO WAS 880-72	5-4-72	J.P.		
I	PART NO WAS 880-72	5-4-72	J.P.		

ITEM	QTY	DESCRIPTION OR MATERIAL
35	1	800-3
34	1	102
33	1	SOLDER
32	2	818-3
31	2	818-3
30	2	818-3
29	2	818-3
28	2	818-3
27	2	818-3
26	2	818-3
25	2	818-3
24	2	818-3
23	2	818-3
22	2	818-3
21	2	818-3
20	2	818-3
19	2	818-3
18	2	818-3
17	2	818-3
16	2	818-3
15	2	818-3
14	2	818-3
13	2	818-3
12	2	818-3
11	2	818-3
10	2	818-3
9	2	818-3
8	2	818-3
7	2	818-3
6	2	818-3
5	2	818-3
4	2	818-3
3	2	818-3
2	2	818-3
1	2	818-3

300-780

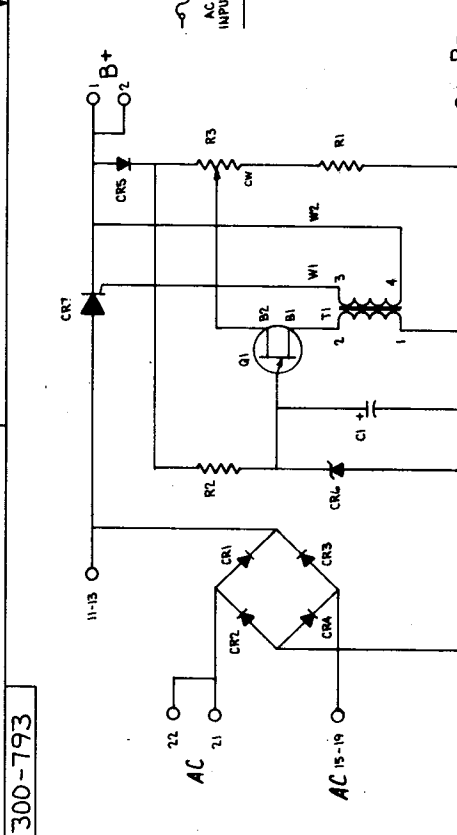
MODULE-VOLTAGE SENSOR

ATSC, ATSD, ATSE

300-793

REV	DATE	BY	CHK	APP
1	11-18-71			
2	5-4-72			
3	5-4-72			
4	5-4-72			
5	5-4-72			
6	5-4-72			
7	5-4-72			
8	5-4-72			

ADDENDUM NOTE 3  
 A WAS QTY 5  
 B WAS QTY 5  
 C WAS QTY 5  
 D WAS QTY 5  
 E PART NO. WAS 880-2

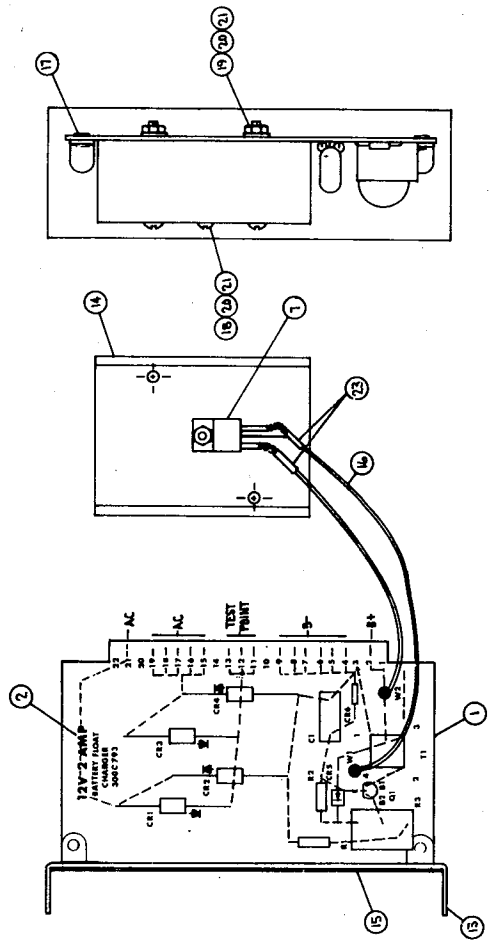


RATING 12 VOLTS 2 AMP NOMINAL  
 FLOAT ADJ RANGE 12.4 TO 14.5 VOLTS  
 FACTORY SET TO 13.3

NOTES

TEST AND ADJUST FLOAT CHARGE VOLTAGE PER DNG 538B163

300-793



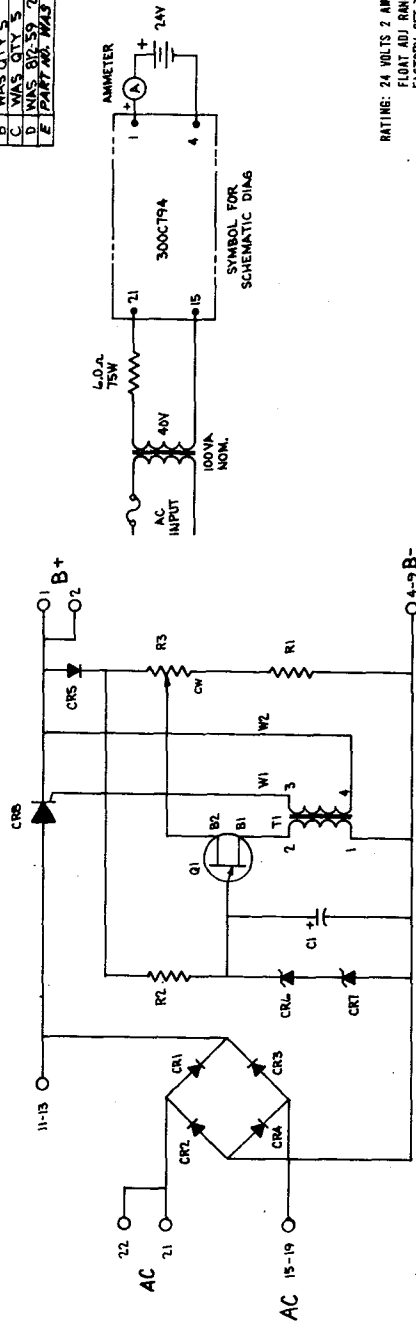
QTY	DESCRIPTION	REF	DES	FORM	REF	DES	FORM
1	WIRE-FLXIBLE NO 20	16	334-1890	A	1	WIRE-FLXIBLE NO 20	A
1	HEAT SINK-SR	14	365-56	A	1	HEAT SINK-SR	A
1	PANEL-PC-116	13	301-3371	B	1	PANEL-PC-116	B
1	POTENTIOMETER # B 750C 5%	12	315-368	B	1	POTENTIOMETER # B 750C 5%	B
1	RESISTOR 15K.Ω	11	303-179	A	1	RESISTOR 15K.Ω	A
1	RESISTOR 1500Ω ±1	10	350-550	P	1	RESISTOR 1500Ω ±1	P
1	TRANSISTOR-UNIJUNCTION "M48"	9	351-210	A	1	TRANSISTOR-UNIJUNCTION "M48"	A
1	SCR-8 AMP 50V	8	361-3	A	1	SCR-8 AMP 50V	A
1	DIODE-ZENER 8 2V ±5	7	364-15	A	1	DIODE-ZENER 8 2V ±5	A
1	DIODE-BLOCKING	6	358-32	A	1	DIODE-BLOCKING	A
1	DIODE-3 AMP 100V	5	357-4	A	1	DIODE-3 AMP 100V	A
1	CAPACITOR 0.1 MFD 100V	4	357-17	A	1	CAPACITOR 0.1 MFD 100V	A
1	SILKSCREEN 12V	3	355-25	A	1	SILKSCREEN 12V	A
1	PRINTED CIRCUIT BOARD	2	98-2287	A	1	PRINTED CIRCUIT BOARD	A
1	322-1481	1	322-1481	C	1	322-1481	C

QTY	DESCRIPTION	REF	DES	FORM	REF	DES	FORM
1	WIRE-FLXIBLE NO 20	16	334-1890	A	1	WIRE-FLXIBLE NO 20	A
1	HEAT SINK-SR	14	365-56	A	1	HEAT SINK-SR	A
1	PANEL-PC-116	13	301-3371	B	1	PANEL-PC-116	B
1	POTENTIOMETER # B 750C 5%	12	315-368	B	1	POTENTIOMETER # B 750C 5%	B
1	RESISTOR 15K.Ω	11	303-179	A	1	RESISTOR 15K.Ω	A
1	RESISTOR 1500Ω ±1	10	350-550	P	1	RESISTOR 1500Ω ±1	P
1	TRANSISTOR-UNIJUNCTION "M48"	9	351-210	A	1	TRANSISTOR-UNIJUNCTION "M48"	A
1	SCR-8 AMP 50V	8	361-3	A	1	SCR-8 AMP 50V	A
1	DIODE-ZENER 8 2V ±5	7	364-15	A	1	DIODE-ZENER 8 2V ±5	A
1	DIODE-BLOCKING	6	358-32	A	1	DIODE-BLOCKING	A
1	DIODE-3 AMP 100V	5	357-4	A	1	DIODE-3 AMP 100V	A
1	CAPACITOR 0.1 MFD 100V	4	357-17	A	1	CAPACITOR 0.1 MFD 100V	A
1	SILKSCREEN 12V	3	355-25	A	1	SILKSCREEN 12V	A
1	PRINTED CIRCUIT BOARD	2	98-2287	A	1	PRINTED CIRCUIT BOARD	A
1	322-1481	1	322-1481	C	1	322-1481	C

QTY	DESCRIPTION	REF	DES	FORM	REF	DES	FORM
1	WIRE-FLXIBLE NO 20	16	334-1890	A	1	WIRE-FLXIBLE NO 20	A
1	HEAT SINK-SR	14	365-56	A	1	HEAT SINK-SR	A
1	PANEL-PC-116	13	301-3371	B	1	PANEL-PC-116	B
1	POTENTIOMETER # B 750C 5%	12	315-368	B	1	POTENTIOMETER # B 750C 5%	B
1	RESISTOR 15K.Ω	11	303-179	A	1	RESISTOR 15K.Ω	A
1	RESISTOR 1500Ω ±1	10	350-550	P	1	RESISTOR 1500Ω ±1	P
1	TRANSISTOR-UNIJUNCTION "M48"	9	351-210	A	1	TRANSISTOR-UNIJUNCTION "M48"	A
1	SCR-8 AMP 50V	8	361-3	A	1	SCR-8 AMP 50V	A
1	DIODE-ZENER 8 2V ±5	7	364-15	A	1	DIODE-ZENER 8 2V ±5	A
1	DIODE-BLOCKING	6	358-32	A	1	DIODE-BLOCKING	A
1	DIODE-3 AMP 100V	5	357-4	A	1	DIODE-3 AMP 100V	A
1	CAPACITOR 0.1 MFD 100V	4	357-17	A	1	CAPACITOR 0.1 MFD 100V	A
1	SILKSCREEN 12V	3	355-25	A	1	SILKSCREEN 12V	A
1	PRINTED CIRCUIT BOARD	2	98-2287	A	1	PRINTED CIRCUIT BOARD	A
1	322-1481	1	322-1481	C	1	322-1481	C

300-793

LIT	REVISIONS	DRAWING			
		ZONE	NO	CD	DATE
A	ADDED NOTE 3	C2	1	AP	11-18-71
B	WAS QTY 5	B2	1	5-4-72	
C	WAS QTY 5	B2	1	5-4-72	
D	WAS 816-59 7/2 SCREW: RHM 6-32 x 1/4	B2	1	5-4-72	
E	PART NO. WAS 880-12	B2	1	5-4-72	

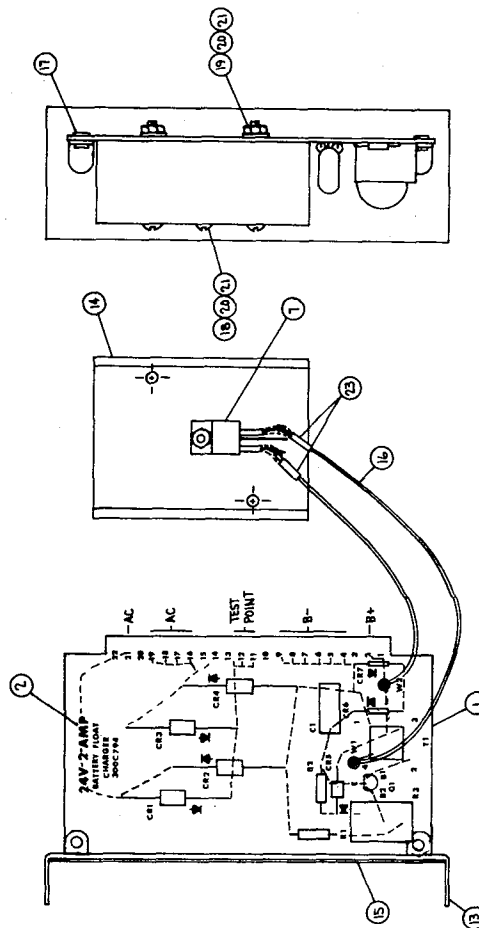


**RATING: 24 VOLTS 2 AMP NOMINAL**  
**FLOAT ADJ RANGE 25.2 TO 28 VOLTS**  
**FACTORY SET TO 26.6 VOLTS**

**NOTES:**

TEST AND ADJUST FLOAT CHARGE VOLTAGE PER DWG 539B164

300-794

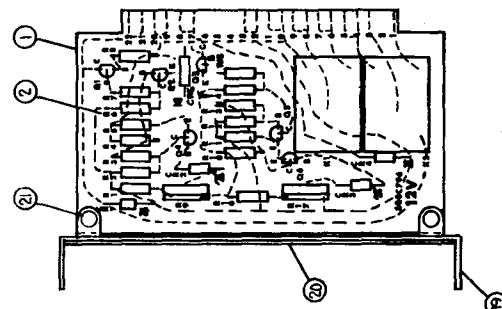
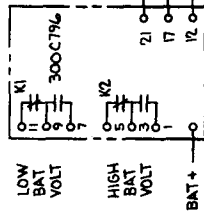
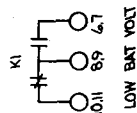
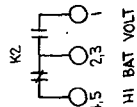
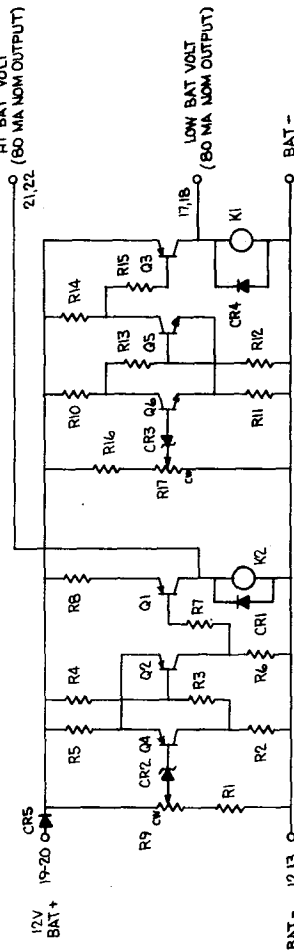


23	898-8	151M	SLEEVING NO.14
22	*880-3	110Z	SOLDER
21	880-6	3	MUT-HMS #8-32
20	853-3	3	WASHER-ET LK #6
19	812-70	2	SCREW-RHM 6-32 x 1-1/4
18	812-61	1	SCREW-RHM 6-32 x 3/8
17	818-3	2	RIVET #6
16	*334-1890	4 1M	WIRE-FLEXIBLE NO. 20
15	98-2316	A	LABEL-BATTERY CHARGER
14	363-56	A	HEAT SINK-SCR
13	301-3371	B	PANEL-PC W/LS
12	315-368	B	TRANSFORMER SCR FIRING 1:1 RATIO
R3	303-179	A	POTENTIOMETER W.X. 7500 5%
R2	350-422	P	RESISTOR 30K- $\Omega$
R1	351-210	A	RESISTOR 1500 $\Omega$ $\pm$ 1%
Q1	361-3	A	TRANSISTOR-UNI JUNCTION 2N4871
CR8	364-15	A	SCR-8 AMP. 50V
CR6, 7	359-32	A	DIODE-ZENER 8.2V $\pm$ 5%
CR5	357-4	A	DIODE-BLOCKING
1, 2, 3, 4	357-17	A	DIODE-3 AMP. 100V
C1	355-25	A	CAPACITOR 0.1 MFD 100V
2	98-2298	A	SILKSCREEN 24V
1	332-1427	C	PRINTED CIRCUIT BOARD

[illegible]

300-796

# SCHEMATIC



## SPECIFICATIONS:

1. INPUT ..... 12VDC NOM.  
APPROX 30 MA WITHOUT ALARM  
CONDITION AND APPROX 85 MA  
WITH ALARM CONDITION
2. OUTPUT (LAMPS) ..... 80 MA TO  
TERMINALS 17 AND 21.
3. OUTPUT (DRY CONTACTS) ..... 2 AMPS  
115 VAC  
28 VDC
4. LO BAT VOLTAGE ADJ RANGE ..... 12.4-13.6
5. HI BAT VOLTAGE RANGE ..... 14.2-15.4

## SYMBOL FOR SCHEMATIC DIAG

NOTES:

TEST & CALIBRATE PER DRAWING 539 C 0188 (M)

REV	DATE	DESCRIPTION
A	4-13-72	REMOVED BAT - PIN NOS.
B	6-23-72	REMOVED BAT - PIN NOS.
C	6-23-72	REMOVED BAT - PIN NOS.
D	6-23-72	REMOVED BAT - PIN NOS.
E	6-23-72	REMOVED BAT - PIN NOS.
F	6-23-72	REMOVED BAT - PIN NOS.
G	6-23-72	REMOVED BAT - PIN NOS.
H	6-23-72	REMOVED BAT - PIN NOS.
I	6-23-72	REMOVED BAT - PIN NOS.
J	6-23-72	REMOVED BAT - PIN NOS.
K	6-23-72	REMOVED BAT - PIN NOS.
L	6-23-72	REMOVED BAT - PIN NOS.
M	6-23-72	REMOVED BAT - PIN NOS.

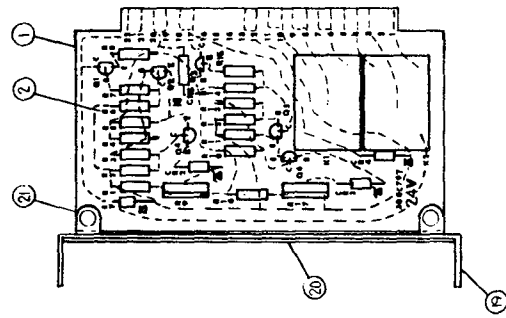
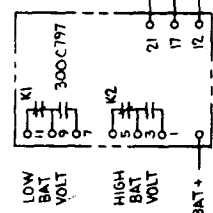
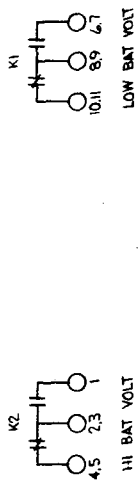
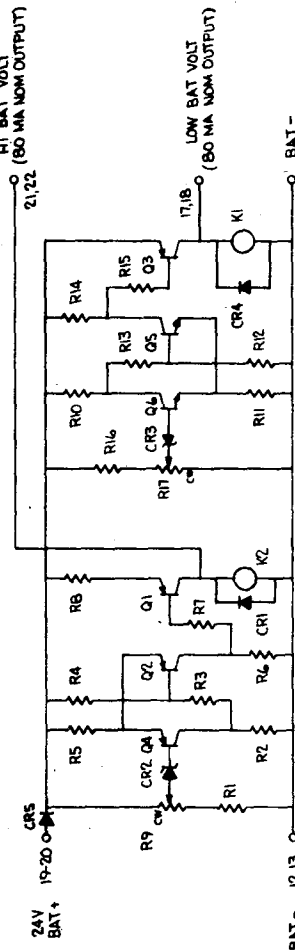
REV	DATE	DESCRIPTION
A	4-13-72	REMOVED BAT - PIN NOS.
B	6-23-72	REMOVED BAT - PIN NOS.
C	6-23-72	REMOVED BAT - PIN NOS.
D	6-23-72	REMOVED BAT - PIN NOS.
E	6-23-72	REMOVED BAT - PIN NOS.
F	6-23-72	REMOVED BAT - PIN NOS.
G	6-23-72	REMOVED BAT - PIN NOS.
H	6-23-72	REMOVED BAT - PIN NOS.
I	6-23-72	REMOVED BAT - PIN NOS.
J	6-23-72	REMOVED BAT - PIN NOS.
K	6-23-72	REMOVED BAT - PIN NOS.
L	6-23-72	REMOVED BAT - PIN NOS.
M	6-23-72	REMOVED BAT - PIN NOS.

REV	DATE	DESCRIPTION
A	4-13-72	REMOVED BAT - PIN NOS.
B	6-23-72	REMOVED BAT - PIN NOS.
C	6-23-72	REMOVED BAT - PIN NOS.
D	6-23-72	REMOVED BAT - PIN NOS.
E	6-23-72	REMOVED BAT - PIN NOS.
F	6-23-72	REMOVED BAT - PIN NOS.
G	6-23-72	REMOVED BAT - PIN NOS.
H	6-23-72	REMOVED BAT - PIN NOS.
I	6-23-72	REMOVED BAT - PIN NOS.
J	6-23-72	REMOVED BAT - PIN NOS.
K	6-23-72	REMOVED BAT - PIN NOS.
L	6-23-72	REMOVED BAT - PIN NOS.
M	6-23-72	REMOVED BAT - PIN NOS.

REV	DATE	DESCRIPTION
A	4-13-72	REMOVED BAT - PIN NOS.
B	6-23-72	REMOVED BAT - PIN NOS.
C	6-23-72	REMOVED BAT - PIN NOS.
D	6-23-72	REMOVED BAT - PIN NOS.
E	6-23-72	REMOVED BAT - PIN NOS.
F	6-23-72	REMOVED BAT - PIN NOS.
G	6-23-72	REMOVED BAT - PIN NOS.
H	6-23-72	REMOVED BAT - PIN NOS.
I	6-23-72	REMOVED BAT - PIN NOS.
J	6-23-72	REMOVED BAT - PIN NOS.
K	6-23-72	REMOVED BAT - PIN NOS.
L	6-23-72	REMOVED BAT - PIN NOS.
M	6-23-72	REMOVED BAT - PIN NOS.

3000797

# SCHEMATIC



SYMBOL FOR SCHEMATIC DIAG

- (D) 1. INPUT APPROX 30 MA WITHOUT ALARM SUBSTITUTION AND APPROX 50 MA 47% LARGE CONDITION.
- (E) 2. OUTPUT (LAMPS) APPROX 80 MA TO 24.8-27.2
- (F) 3. OUTPUT (DRY CONTACTS) 2 AMPS 115 VAC 20 Hz
- 4. LO BAT VOLTAGE 42.0 VDC 24.8-27.2
- 5. HI BAT VOLTAGE 40.0 RANGE 28.4-30.8

SPECIFICATIONS

REF	DES	ITEM	QTY	UNIT	DESCRIPTION OF MATERIAL
R8	25	350-357	1	RESISTOR 580	
	24	*800-5	1	100 SOLDER	
	21	S/B-3	P	2	RIVET
	20	98-2317	A	1	LABEL-DECORATIVE MYLAR
	19	301-3371	B	1	PANEL-PC MTC
R7,15	18	350-384	2	RESISTOR 280	
R12,13,14	17	350-548	P	3	RESISTOR 1000
R11	16	350-504	1	RESISTOR 220	
R10	15	350-403	1	RESISTOR 4.8K	
R9,17	14	303-167	P	2	POTENTIOMETER 10K 2K
R5	13	350-514	1	RESISTOR 150	
R4	12	350-474	1	RESISTOR 5.1K	
	11	350-414	1	RESISTOR 13K	
R2,6	10	350-405	2	RESISTOR 5.6K	
R1,16	9	350-0597	2	RESISTOR 2.7K	
	8	382-7	A	2	TRANSISTOR SIGNAL 2N375
	7	382-8	A	2	TRANSISTOR SIGNAL 2N3702
	6	382-16	A	2	TRANSISTOR SIGNAL 2N3906
K1,2	5	307-1042	A	2	RELAY-24VDC COIL 5000 OHMS MIN
CR2,3	4	359-16	A	2	DIODE-ZENER 6.8V 5W
CR1,4,5	3	357-4	A	3	RECTIFIER 1MT 400MA 400V
	2	98-2312	A	1	SILKSCREEN
	1	332-1451	D	1	PRINTED CIRCUIT BOARD

TEST & CALIBRATE PER DRAWING 539C 0180 (M)

NOTES

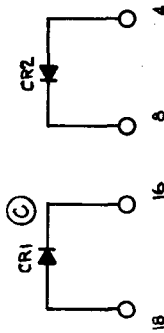
LET	REV	DATE	DESCRIPTION
A	1	8-13-72	REMOVED BAT- PIN NOS.
B	1	8-21-72	R1 WAS 100. PART NO 350-517
C	1	8-23-72	R5 WAS 27K. PART NO 350-517
D	1	8-23-72	SPEC 1 CHRD
E	1	8-23-72	SPEC 2 CHRD
F	1	8-23-72	SPEC 3 CHRD
G	1	8-23-72	WAS PART NO 303-124
H	1	8-23-72	REMOVED ITEMS 22,23,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100
I	1	8-23-72	WAS 812-59
J	1	8-23-72	WAS 812-59
K	1	8-23-72	WAS 812-59
L	1	8-23-72	WAS 812-59
M	1	8-23-72	WAS 812-59
N	1	8-23-72	WAS 812-59
O	1	8-23-72	WAS 812-59
P	1	8-23-72	WAS 812-59
Q	1	8-23-72	WAS 812-59
R	1	8-23-72	WAS 812-59
S	1	8-23-72	WAS 812-59
T	1	8-23-72	WAS 812-59
U	1	8-23-72	WAS 812-59
V	1	8-23-72	WAS 812-59
W	1	8-23-72	WAS 812-59
X	1	8-23-72	WAS 812-59
Y	1	8-23-72	WAS 812-59
Z	1	8-23-72	WAS 812-59

REF	DES	ITEM	QTY	UNIT	DESCRIPTION OF MATERIAL
R8	25	350-357	1	RESISTOR 580	
	24	*800-5	1	100 SOLDER	
	21	S/B-3	P	2	RIVET
	20	98-2317	A	1	LABEL-DECORATIVE MYLAR
	19	301-3371	B	1	PANEL-PC MTC
R7,15	18	350-384	2	RESISTOR 280	
R12,13,14	17	350-548	P	3	RESISTOR 1000
R11	16	350-504	1	RESISTOR 220	
R10	15	350-403	1	RESISTOR 4.8K	
R9,17	14	303-167	P	2	POTENTIOMETER 10K 2K
R5	13	350-514	1	RESISTOR 150	
R4	12	350-474	1	RESISTOR 5.1K	
	11	350-414	1	RESISTOR 13K	
R2,6	10	350-405	2	RESISTOR 5.6K	
R1,16	9	350-0597	2	RESISTOR 2.7K	
	8	382-7	A	2	TRANSISTOR SIGNAL 2N375
	7	382-8	A	2	TRANSISTOR SIGNAL 2N3702
	6	382-16	A	2	TRANSISTOR SIGNAL 2N3906
K1,2	5	307-1042	A	2	RELAY-24VDC COIL 5000 OHMS MIN
CR2,3	4	359-16	A	2	DIODE-ZENER 6.8V 5W
CR1,4,5	3	357-4	A	3	RECTIFIER 1MT 400MA 400V
	2	98-2312	A	1	SILKSCREEN
	1	332-1451	D	1	PRINTED CIRCUIT BOARD

3000797

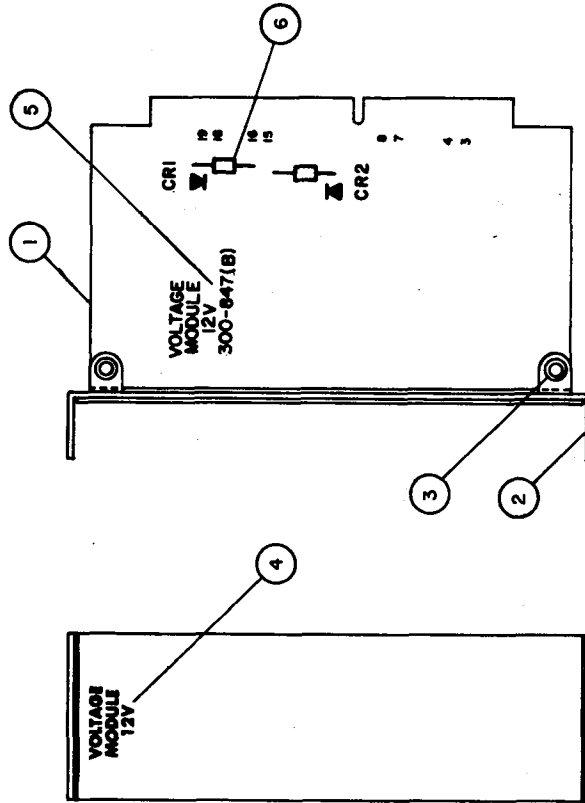
LT	REVISION	ENG	CHK	DATE
A	ADDED ITEM NO. 6	B2	TV	8-2-72
B	ADDED ITEM NO. 7	B2	TV	8-2-72
C	PART NO. WAS 818-3	B2	TV	8-10-72
D	ADDED DIODE SYMBOL TO SCHEMATIC	D4	TV	8-10-72
	REVISED SILKSCREEN	B3	W6	6-18-73

ITEM	QTY	DESCRIPTION OR MATERIAL
7	1.02	SOLDER
6	A	RECTIFIER - INT 400 MA 400 V
5	A	SILKSCREEN-VOLTAGE MOD
4	A	LABEL-VOLTAGE MODULE
3	2	RIVET #6
2	1	PANEL-PC BD
1	1	PRINTED CIRCUIT BOARD



SCHEMATIC

DIAGRAM SYMBOL



NEXT ASSY	SIMILAR TO
TOLERANCES UNLESS OTHERWISE SPECIFIED	
FRACTIONS ±	3 PLACE ±
ANGLES ±	3 PLACE ±
HOLE . . . . . ± .004	3 PLACE ±
HOLE . . . . . ± .002	3 PLACE ±

ITEM	QTY	DESCRIPTION OR MATERIAL
7	1.02	SOLDER
6	A	RECTIFIER - INT 400 MA 400 V
5	A	SILKSCREEN-VOLTAGE MOD
4	A	LABEL-VOLTAGE MODULE
3	2	RIVET #6
2	1	PANEL-PC BD
1	1	PRINTED CIRCUIT BOARD

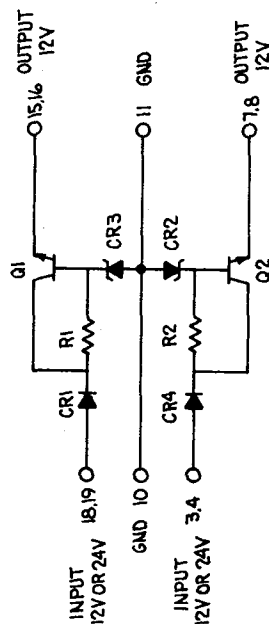
ITEM	QTY	DESCRIPTION OR MATERIAL
7	1.02	SOLDER
6	A	RECTIFIER - INT 400 MA 400 V
5	A	SILKSCREEN-VOLTAGE MOD
4	A	LABEL-VOLTAGE MODULE
3	2	RIVET #6
2	1	PANEL-PC BD
1	1	PRINTED CIRCUIT BOARD

300-847

ATSD, ATSE

300-847

LET	REVISION	ZONE	ENG	CCR	DATE
A	GENERAL SEE DCN WAS 300-926	—	W	W3	5-31-72
B	WAS IN 5349	A-1	W	W3	6-16-72
C	PART NO. WAS 880-12	B-2	J	W3	8-1-72



**NOTES:**

TEST PER DRAWING 539B194.

**RATING:**

INPUT-----24 V  $\pm$  6 VDC  
 OUTPUT-----13.4 V  $\pm$  1 VDC  
 LOAD CURRENT-----0 TO 350 MA  
 MAX POWER CONSUMPTION 10.6 WATTS  
 STORAGE TEMP-----40°C TO 175°C  
 OPERATING TEMP -40°C TO +75°C

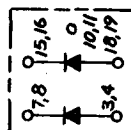
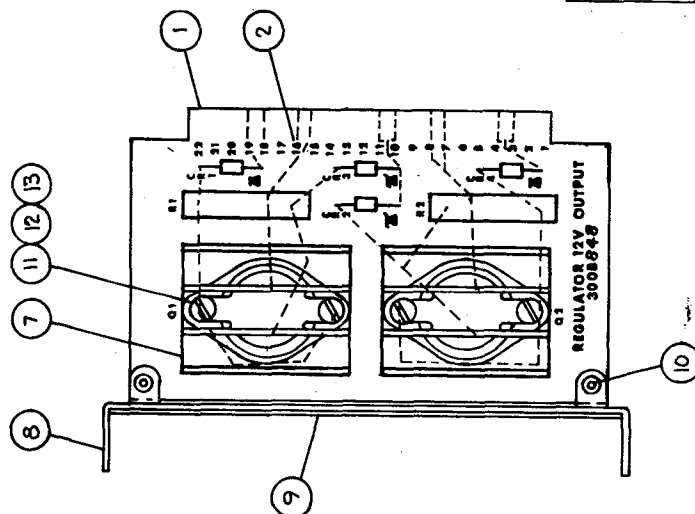


DIAGRAM SYMBOL

ITEM	REF DES	QTY	*BULK	DESCRIPTION OR MATERIAL
14	*880-3	1		1 OZ SOLDER
13	860-6	4		NUT-HMS #6
12	853-3	4		WASHER-RT LK #6
11	812-61	4		SCREW-RHM 6-32 x 3/8
10	818-3	2		RIVET
9	98-2375	A		LABEL-VOLTAGE CONVERTER
8	301-3371	B		PANEL-PC MTG
7	363-67	B		HEAT SINK-TRANSISTOR
6	352-155	A		RESISTOR-FIXED 100 $\Omega$ $\pm 5\%$
5	362-1B	A		TRANSISTOR-POWER 2N3055
4	359-33	A		DIODE-ZENER 14 V 5% (N5351) (B)
3	357-4	A		DIODE-BLOCKING
2	98-2472	A		SILKSCREEN-PC BD
1	332-1433	C		PRINTED CIRCUIT BOARD

INPUT----- 24 V  $\pm$  6 VDC

LOAD CURRENT----- 0 TO 350 MA

MAX POWER CONSUMPTION 10.6 WATTS

STORAGE TEMP----- -40°C TO 175°C

OPERATING TEMP - 40°C TO +75°C

7, 8, 15, 16

3, 4, 10, 11, 18, 19

DIAGRAM SYMBOL

TEMP FROM

DR JTM

CRK WLB

INQD

SAINT

RELI

PROD

DATE 2-3-72

sec punch count

ck

sc

ATSC.D & E

NEXT ASSY

TOLERANCES UNLESS OTHERWISE SPECIFIED

FRACTIONS  $\pm$

DECIMALS

2 PLACE  $\pm$

3 PLACE  $\pm$

HOLES . . .  $\pm$  .006

KEYS . . .  $\pm$  .002

SIMILAR TO

2 PLACE  $\pm$

3 PLACE  $\pm$

THE PROPERTY DESIGN INFORMATION ON THIS PRINT IS THE PROPERTY OF THE COMPANY AND IS NOT TO BE LOANED, REPRODUCED, COPIED, OR IN ANY MANNER DISSEMINATED TO OTHERS.

MODULE-24 V TO 12V CONV

300-848

**LONG WOLF**

**300-857**

DWG  
SIZE  
B

REVISION

LET	DATE	ENG	CHK
—	8-16-72	JU	WB

— SUPDS DWG SAME NO. DATED 11-4-71

DATE 8-16-72

ATSC, ATSD & ATSE

300-857

DR J. MORK

CRK WJB

ENGR JIM VINT

SAWP

REL

PROG

REL

300-857

DR J. MORK

CRK WJB

ENGR JIM VINT

SAWP

REL

PROG

REL

EXTENSION BOARD 300B857

W22

W21

W20

W19

W18

W17

W16

W15

W14

W13

W12

W11

W10

W9

W8

W7

W6

W5

W4

W3

W2

W1

ITEM	PART NO.	QTY	DESCRIPTION OR MATERIAL
9	9B-2392	A	SILKSCREEN-PC BD
8	*880-3	-	1.0Z SOLDER
7	880-3	-	NUT-HMS #4-40
6	883-1	-	WASHER-ET LK #4
5	812-32	-	SCREW-RHM #4-40 x 9/16
4	332-1522	A	KEY-POLARIZING
3	332-1521	B	HOUSING-PC BD TERMINAL
2	301-3618	A	PULL-EXTENSION BOARD
1	332-1457	C	PRINTED CIRCUIT BOARD

DATE 8-16-72

ATSC, ATSD & ATSE

300-857

DR J. MORK

CRK WJB

ENGR JIM VINT

SAWP

REL

PROG

REL

EXTENSION BOARD 300B857

W22

W21

W20

W19

W18

W17

W16

W15

W14

W13

W12

W11

W10

W9

W8

W7

W6

W5

W4

W3

W2

W1

ITEM	PART NO.	QTY	DESCRIPTION OR MATERIAL
9	9B-2392	A	SILKSCREEN-PC BD
8	*880-3	-	1.0Z SOLDER
7	880-3	-	NUT-HMS #4-40
6	883-1	-	WASHER-ET LK #4
5	812-32	-	SCREW-RHM #4-40 x 9/16
4	332-1522	A	KEY-POLARIZING
3	332-1521	B	HOUSING-PC BD TERMINAL
2	301-3618	A	PULL-EXTENSION BOARD
1	332-1457	C	PRINTED CIRCUIT BOARD

DATE 8-16-72

ATSC, ATSD & ATSE

300-857

DR J. MORK

CRK WJB

ENGR JIM VINT

SAWP

REL

PROG

REL

EXTENSION BOARD 300B857

W22

W21

W20

W19

W18

W17

W16

W15

W14

W13

W12

W11

W10

W9

W8

W7

W6

W5

W4

W3

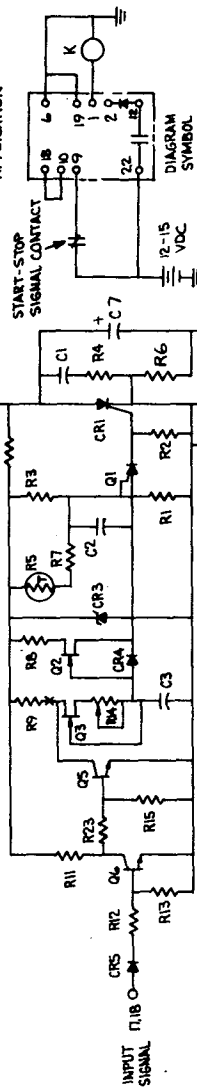
W2

W1



REV	DATE	BY	CHK	APP
1	9-26-73	WAS	WJ	WJ
2	9-26-73	WAS	WJ	WJ
3	9-26-73	WAS	WJ	WJ
4	9-26-73	WAS	WJ	WJ
5	9-26-73	WAS	WJ	WJ
6	9-26-73	WAS	WJ	WJ
7	9-26-73	WAS	WJ	WJ
8	9-26-73	WAS	WJ	WJ
9	9-26-73	WAS	WJ	WJ
10	9-26-73	WAS	WJ	WJ

## TYPICAL APPLICATION



TD START

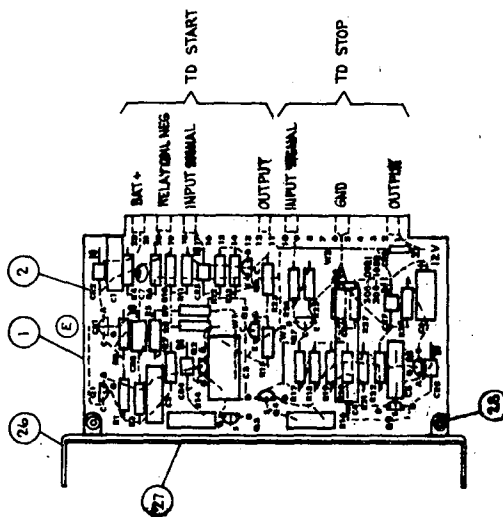
19,20  
OUTPUT RELAY COIL NEG

CR1-O,1,2 OUTPUT

INPUT SIGNAL

GND

SPECIFICATIONS:  
 INPUT..... 12 TO 15 VDC  
 LOAD CURRENT..... 400 MA  
 TIMING ACTION:  
 DELAY ON OPERATE PLUS DELAY ON RELEASE  
 ADJ TIME RANGE:  
 START..... 0.5 TO 15 SECONDS  
 STOP..... 0.5 TO 5 MINUTES  
 TOLERANCE.....  $\pm 20\%$   
 TEMPERATURE:  
 OPERATE.....  $0^{\circ}\text{C TO } +75^{\circ}\text{C}$   
 STORAGE.....  $-65^{\circ}\text{C TO } +75^{\circ}\text{C}$   
 REVERSE POLARITY PROTECTED ON I.D. START SECTION



NOTES:

TEST AND ADJUST PER DNG 5388195

W1,2,3	30	*334-742	P	3 IN WIRE JUMPER-RR SS TINNED COPPER
20	20	*880-12	1	1.00 SOLDER
28	28	818-3	2	2 RIVET
27	27	98-2318	A	1 LABEL-T.D. START-STOP
26	26	301-3371	B	1 PANEL-PC MTG.
R12,24	25	350-545	2	2 RESISTOR 5.6 K $\Omega$
R14, 16	24	303-169	A	2 POTENTIOMETER 3.5 MEG $\Omega$
R17,21,23	23	350-540	4	4 RESISTOR 2.2 K $\Omega$
R10, 27	22	350-528	2	2 RESISTOR 220 $\Omega$
R15, 25	21	350-538	4	4 RESISTOR 1 K $\Omega$
R8, 20	20	350-548	2	2 RESISTOR 10 K $\Omega$
R7, 21	19	350-391	2	2 RESISTOR 1.5 K $\Omega$ 5%
R5, 19	17	352-200	A	2 THERMISTOR 10 K $\Omega$
R4	16	350-524	1	1 RESISTOR 100 $\Omega$
R2,R6	15	350-379	2	2 RESISTOR 470 $\Omega$ 5%
R13,18,22	14	350-411	P	4 RESISTOR 10 K 5%
Q5,6,7	13	362-7	A	3 TRANSISTOR-SIGNAL 2N4525
Q2,3,4,9	12	362-31	A	4 TRANSISTOR-FET 2N5718
Q1,8	11	381-6	A	2 TRANSISTOR-PUT 2N6027
CR3,6	10	359-1A	A	2 DIODE-ZENER 12 V 5%
CR2,4,5,8,9	9	357-4	A	6 RECTIFIER-DIODE 400 MA 400 V
CR1	8	384-17	A	1 RECTIFIER-GATE CONT
C7	7	356P3	P	1 CAPACITOR 1.0 MFD 35 V
C6	6	356-46	A	1 CAPACITOR 5 MFD 35 VDC
C4	5	355-27	A	1 CAPACITOR 10.0 MFD 50 VDC
C3	4	355-28	A	1 CAPACITOR .5 MFD 50 VDC
C1,2,5	3	355-25	A	3 CAPACITOR .1 MFD 100 VDC
	2	98-2414	A	1 SILSCREEN-PC 80 12 V
	1	332-1462	D	1 PRINTED CIRCUIT BOARD

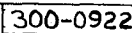
REV	DATE	BY	CHK	APP
1	9-26-73	WAS	WJ	WJ
2	9-26-73	WAS	WJ	WJ
3	9-26-73	WAS	WJ	WJ
4	9-26-73	WAS	WJ	WJ
5	9-26-73	WAS	WJ	WJ
6	9-26-73	WAS	WJ	WJ
7	9-26-73	WAS	WJ	WJ
8	9-26-73	WAS	WJ	WJ
9	9-26-73	WAS	WJ	WJ
10	9-26-73	WAS	WJ	WJ

MODULE-T.D. START-STOP 12V

ATSD 1 ATSE 300-0921

C

300-0922



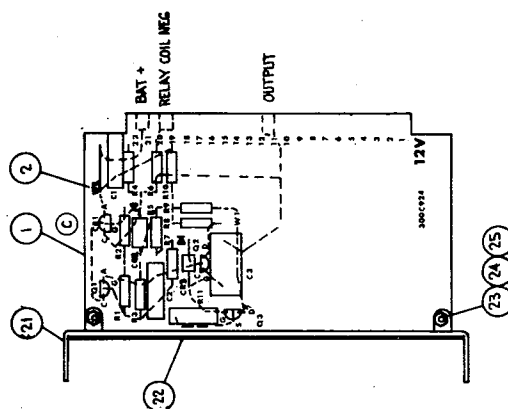
TEST AND ADJUST PER DWG 5398194

**300-0922**



TEST AND ADJUST PER DWG 539B199.

300-924

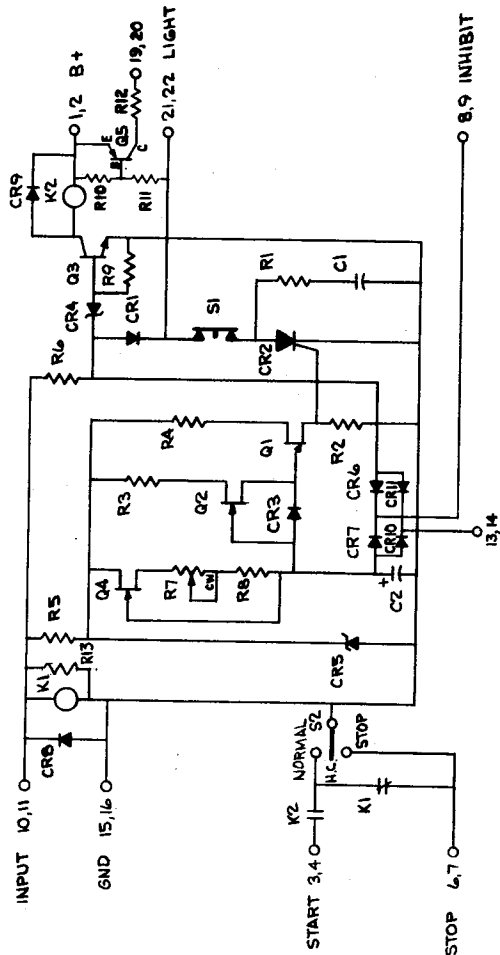


<b>RATINGS:</b>	
INPUT.....	12 TO 15 VDC
OUTPUT CURRENT.....	400 MA
TIME DELAY ADJ.....	1.5 TO 15 SECONDS
<b>TIMING ACTION</b>	
DELAY ON OPERATE	
<b>TEMPERATURE:</b>	
STORAGE.....	-65°F TO 175°F
OPERATE.....	-40°F TO 150°F
<b>TIME CHANGE WITH TEMP (TYP)</b>	
+5% FROM 72°F TO 0°F	
-5% FROM 72°F TO 105°F	
-10% FROM 72°F TO 120°F	

[illegible]

300-0926

# SCHEMATIC



NOTES:

TEST AND CALIBRATE PER DRAWING 5308202.

300-0926

ITEM	QTY	DESCRIPTION OR MATERIAL	DATE
1	1	RESISTOR 470Ω 1/2W	7-24-72
2	1	RESISTOR 27Ω	7-24-72
3	1	TRANSISTOR-PNP 2N5817	7-24-72
4	1	TRANSISTOR-FET 2N5716	7-24-72
5	1	SOLDER	7-24-72
6	1	RIVET	7-24-72
7	1	LABEL -2 TO 3 CONV	7-24-72
8	1	PANEL-PC MTS	7-24-72
9	1	SWITCH-PUSH BUTTON	7-24-72
10	1	SWITCH-TOGGLE	7-24-72
11	1	POTENTIOMETER 3.5 MEG Ω	7-24-72
12	1	RESISTOR 2 KΩ 5%	7-24-72
13	1	RESISTOR 150 Ω	7-24-72
14	1	RESISTOR 10 KΩ	7-24-72
15	1	RESISTOR 20 KΩ	7-24-72
16	1	RESISTOR 100 Ω	7-24-72
17	1	RESISTOR 330 Ω	7-24-72
18	1	TRANSISTOR-SIGNAL 2N4925	7-24-72
19	1	TRANSISTOR-FET 2N457	7-24-72
20	1	TRANSISTOR-UNIJUNCTION 2N4971	7-24-72
21	1	RELAY 12 V	7-24-72
22	1	DIODE ZENER 7.5 V 5%	7-24-72
23	1	DIODE ZENER 5.1 V 5%	7-24-72
24	1	RECTIFIER-GATE CONT	7-24-72
25	1	RECTIFIER-DIODE 400 V	7-24-72
26	1	CAPACITOR 10 MFD 20 VDC	7-24-72
27	1	CAPACITOR 22 MFD 200 VDC	7-24-72
28	1	SILKSCREEN-CONVERTER	7-24-72
29	1	PRINTED CIRCUIT BOARD	7-24-72

SPECIFICATIONS:  
 INPUT VOLTAGE..... 12.23V DC  
 B+ POWER..... 12.23V DC  
 LOAD CURRENT..... 0-5 AMP DC  
 MAX POWER CONSUMPTION..... 3 WATTS  
 STORAGE TEMP..... -40°C TO 100°C  
 OPERATING TEMP..... -40°C TO 80°C  
 OVERCRANK T.D..... 75±5 SECS

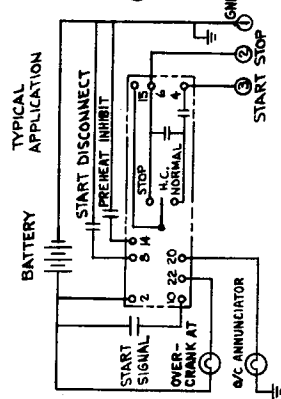
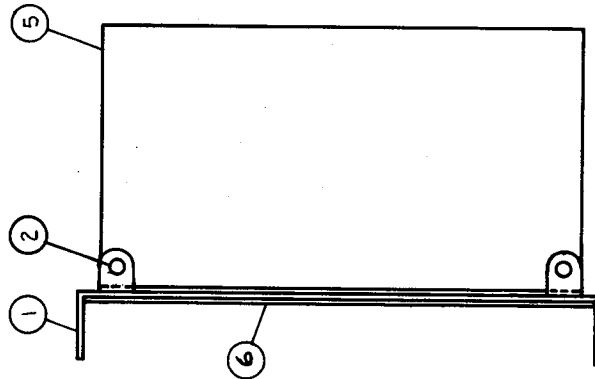


DIAGRAM SYMBOL



300-937

REV	DATE	BY	CHK	DATE



ITEM		PART NO.		QTY		DESCRIPTION OR MATERIAL	
6	98-2377	A	1	LABEL-DECORATIVE MYLAR			
5	332-1501	A	1	PRINTED CIRCUIT-BLANK			
4							
3	818-3		2	RIVET # 6			
1	301-3371		1	PANEL-PC BD			

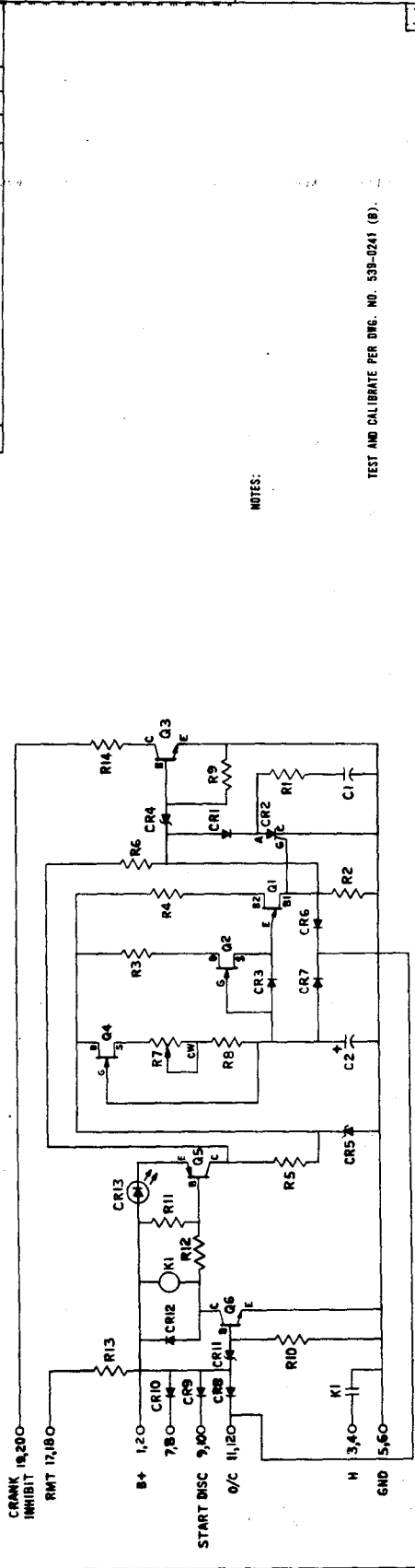
  

BUSHARD		DIVISION OF ONAN CORPORATION	
CR C/D		Minneapolis, Minnesota	
DATE 4-6-72		MODULE-BLANK(SPARE)	
REV TV 5-5-72		ATSC, ATSD & ATSE	
300-937		300-937	

NEXT ASSY		SIMILAR TO	
TOLERANCES UNLESS OTHERWISE SPECIFIED		DECIMALS	
FRACTIONS 1/2		3 PLACE 1	
ANGLES . . . 1/2		3 PLACE 1	
HOLE . . . . 1/2		3 PLACE 1	

The proprietary design information on this price is the property of the manufacturer and is not to be used for any other purpose without the written consent of the manufacturer.



300-1072

TEST AND CALIBRATE PER DWG. NO. 539-0241 (B).

NOTES:

INPUT VOLTAGE

12.3V DC

B+ POWER

12.3V DC

LOAD CURRENT

0-3 AMP DC

MAX POWER CONSUMPTION

3 WATTS

STORAGE TEMP

-40°C TO 100°C

OPERATING TEMP

-40°C TO 100°C

PREHEAT T. D.

75-25 SECS

MECHANICAL ASSY

TIME DELAY

PREHEAT

DIAG SYMBOL

TDO

019, 20

05, 6

03, 4

# SPECIFICATIONS

ITEM	REF DES	PART NO.	QTY	UNIT	DESCRIPTION OR MATERIAL
1	CR13	322-0159	1	P	MOUNTING - LAMP
2	R13	350-0394	1	R	RESISTOR, 2 KΩ 5%
3	R13	350-0394	1	R	RESISTOR, 10KΩ
4	R7	303-0169	1	A	POTENTIOMETER, 3.3KΩ
5	R8	350-0927	1	R	RESISTOR, 100Ω 1WATT
6	R4, 12	350-0536	2	R	RESISTOR, 1KΩ
7	R3	350-0418	1	R	RESISTOR, 20KΩ
8	R2	350-0524	1	R	RESISTOR, 100Ω
9	R1, 5, 14	350-0530	3	R	RESISTOR, 330Ω
10	Q5	362-0034	1	A	TRANSISTOR-PNP 2N4817
11	CR13	322-0157	1	P	LAMP - LED
12	Q3, 6	362-0017	2	A	TRANSISTOR-SIGNAL 2N2925
13	Q2, 4	362-0025	2	A	TRANSISTOR-FET 2N4457
14	Q1	361-0083	1	A	TRANSISTOR-UNIJUNCTION 2N4871
15	K1	307-1042	1	A	RELAY, 12V
16	CR5	358-0027	1	A	DIODE-ZENER
17	CR4, 11	359-0017	2	A	DIODE-ZENER
18	CR2	384-0017	1	A	RECTIFIER
19	CR13, 200, 012	357-0004	8	A	RECTIFIER-DIODE
20	C2	358-0040	1	A	CAPACITOR, 10 MFD, 20 VDC
21	C1	355-0005	1	P	CAPACITOR, .22 MFD, 200 VDC
22		*880-0003	1	Q2	SOLDER
23		98-2646	1	A	LABEL-TIME DELAY (PREHEAT)
24		301-3371	1	B	PANEL-PC 80
25		818-0003	2	A	RIVET #6
26		98-2647	1	A	SILKSCREEN-PC 80
27		332-1662	1	D	PRINTED CIRCUIT BOARD

REF DES	QTY	UNIT	DESCRIPTION OR MATERIAL
CR13	1	P	MOUNTING - LAMP
R13	1	R	RESISTOR, 2 KΩ 5%
R13	1	R	RESISTOR, 10KΩ
R7	1	A	POTENTIOMETER, 3.3KΩ
R8	1	R	RESISTOR, 100Ω 1WATT
R4, 12	2	R	RESISTOR, 1KΩ
R3	1	R	RESISTOR, 20KΩ
R2	1	R	RESISTOR, 100Ω
R1, 5, 14	3	R	RESISTOR, 330Ω
Q5	1	A	TRANSISTOR-PNP 2N4817
CR13	1	P	LAMP - LED
Q3, 6	2	A	TRANSISTOR-SIGNAL 2N2925
Q2, 4	2	A	TRANSISTOR-FET 2N4457
Q1	1	A	TRANSISTOR-UNIJUNCTION 2N4871
K1	1	A	RELAY, 12V
CR5	1	A	DIODE-ZENER
CR4, 11	2	A	DIODE-ZENER
CR2	1	A	RECTIFIER
CR13, 200, 012	8	A	RECTIFIER-DIODE
C2	1	A	CAPACITOR, 10 MFD, 20 VDC
C1	1	P	CAPACITOR, .22 MFD, 200 VDC
	1	Q2	SOLDER
	1	A	LABEL-TIME DELAY (PREHEAT)
	1	B	PANEL-PC 80
	2	A	RIVET #6
	1	A	SILKSCREEN-PC 80
	1	D	PRINTED CIRCUIT BOARD





